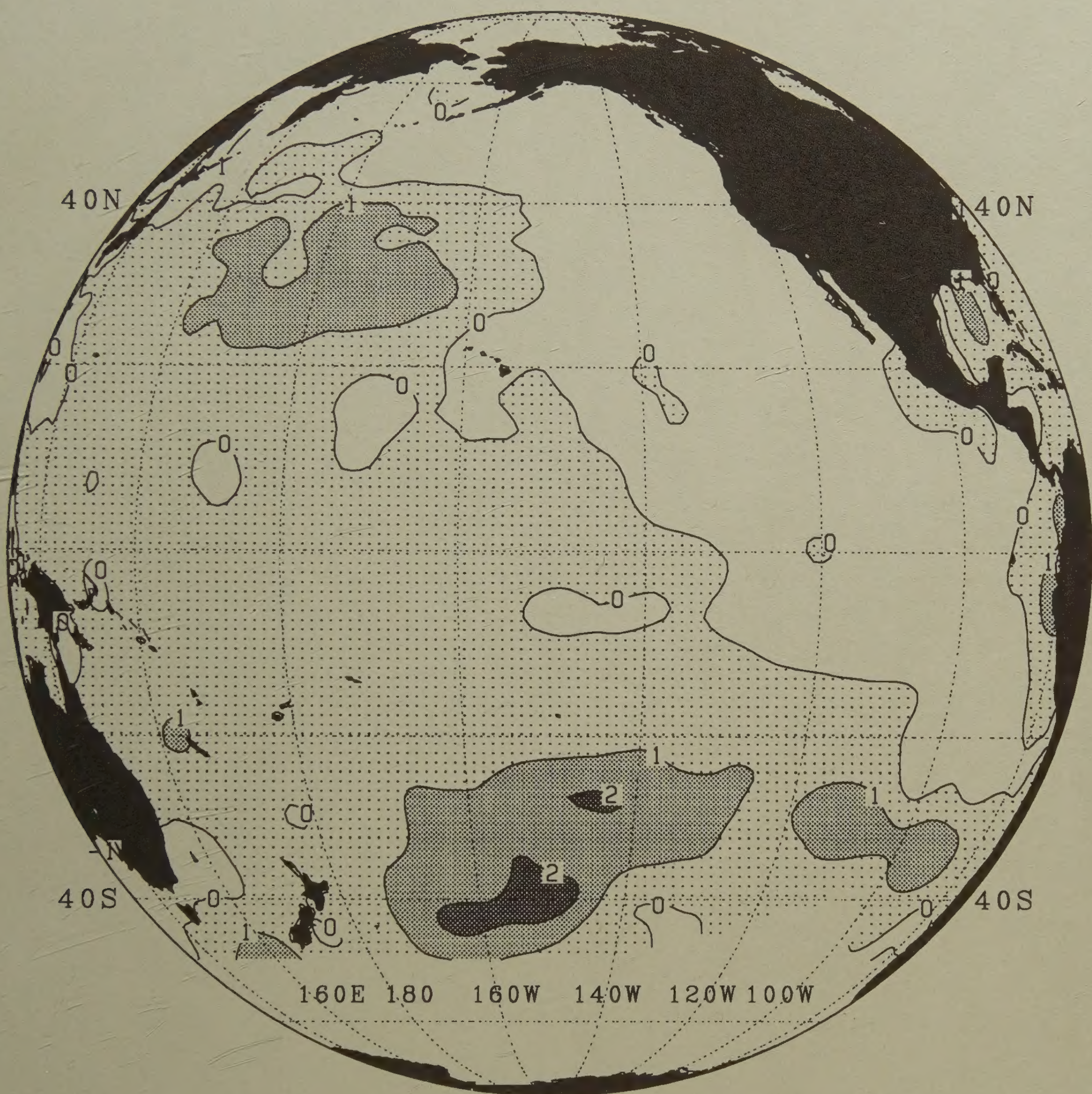
# 気象庁海洋月報

# Monthly Ocean Report
## February 2002 (No. 110)




Climate and Marine Department
Japan Meteorological Agency

気象庁 気候・海洋気象部

平成14年2月

気象庁海洋月報は、気象庁 気候・海洋気象部 海洋気象情報室で作成しています。
本月報に関する問い合わせは、

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Monthly Ocean Report is prepared by the Office of Marine Prediction, Climate and Marine Department, Japan Meteorological Agency.

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表紙は、2002年2月の太平洋の月平均海面水温偏差図です。
陰影部は、平年より高温の海域を示しています。

The figure on the front cover shows the monthly mean SST anomalies for February 2002 in the Pacific Ocean.
Areas of positive anomalies are shaded.

## 訂正

平成14年4月1日

海洋月報の下記のページに誤りがありましたので、差し替えをお願い致します。

1. No. 109（2002年1月号） p.11
2. No. 110（2002年2月号） p.11

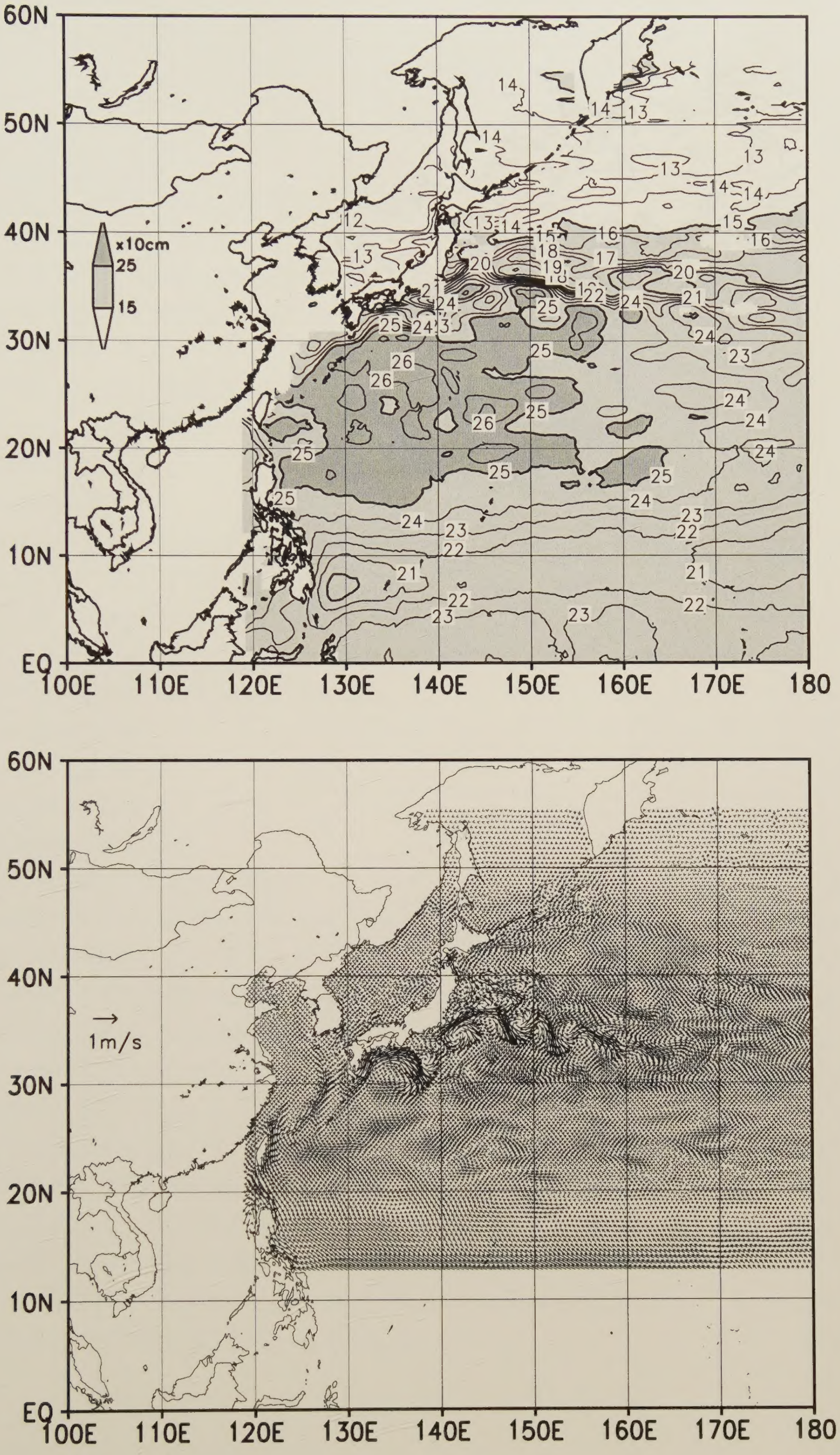
問い合わせ先：
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1 April 2002

Please find Monthly Ocean Report of JMA, No. 110.
It was found that there were errata in the following pages. It would be appreciated if you would replace them with the copies herewith attached.

1. No. 109 (January 2002) p.11
2. No. 110 (February 2002) p.11

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第 10 図　北西太平洋月平均海面高度分布図 (上) と海面海流図 (下) （2002 年 1 月）
（海洋総合解析システムによる）

Fig. 10　Monthly mean sea surface height (top) and current (bottom) in the western North Pacific for January 2002. Contour interval is 10cm (top). (calculated by the Ocean Comprehensive Analysis System)

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# 海況の特徴（２００２年２月）

## 日本近海の海況

海面水温は、房総半島沖から伊豆諸島にかけて、及び秋田沖では平年より 0.5℃以上高かった。一方、オホーツク海南部から北海道東方にかけて平年より１℃以上低かった（第４図）。

黒潮は、九州東方を離岸して流れ、紀伊半島で接岸した後、東海沖を東北東に流れていた。その後上･下旬は三宅島付近を、中旬は三宅島の南を通過し、房総半島沖を北東に流れ、36° N、142° E 付近に達した後、東南東に向きを変えていた（第９図）。

## 太平洋の海況

太平洋赤道域の海面水温は、155° Eから170° E、日付変更線付近、160° Wから140° Wにかけて、及び85° W以東で平年より0.5℃以上高く、エクアドル沖では＋１℃を超える正偏差が見られた。

北太平洋の海面水温は、20° Nから 45° Nの 160° Eから 165° Wで平年より１℃以上高かった。一方、北米西方と、カムチャツカ半島から千島列島にかけては－0.5℃を超える負偏差が見られた（第１７図）。

# Highlights February 2002

## Seas adjacent to Japan

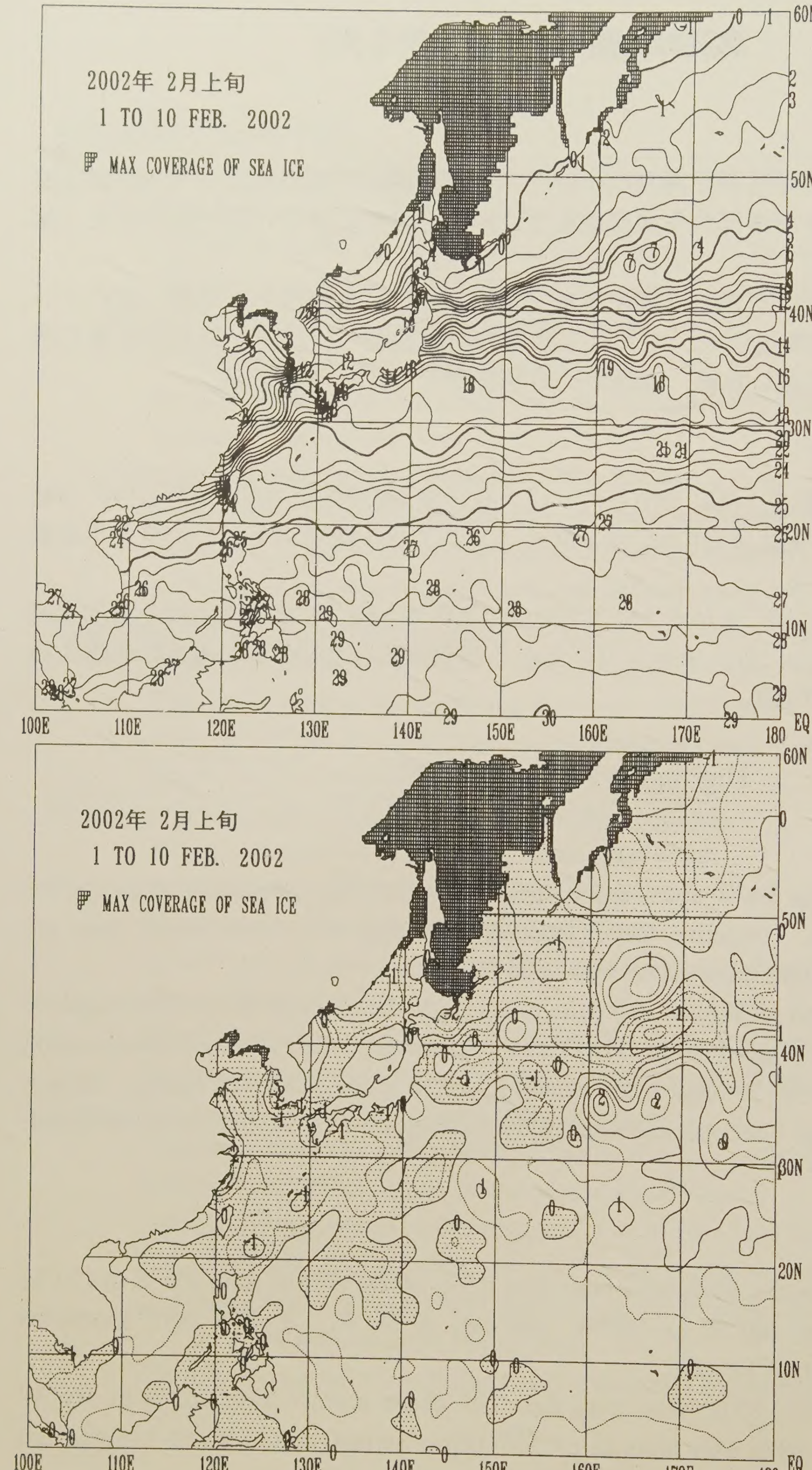
SSTs were more than 0.5℃ above normal from seas off the Boso Peninsula to around the Izu Islands, and off Akita. Negative SST anomalies exceeding -1℃ were found from the southern part of the Sea of Okhotsk to east of Hokkaido (Fig. 4).

The Kuroshio passed off Kyushu and close to the Kii Peninsula, and flowed ENE-ward off Tokai through the month. In the first and last 10 days of the month, the Kuroshio flowed around Miyake Island. In the second 10 days of the month, it passed south of Miyake Island. Then it flowed NE-ward off the Boso Peninsula and turned ESE-ward near 36°N, 142°E through the month (Fig. 9).

## Pacific Ocean

In the equatorial Pacific, SSTs were more than 0.5℃ above normal from 155°E to 170°E, around the date line, from 160°W to 140°W, and east of 85°W. Positive SST anomalies exceeding +1℃ were found off Ecuador.

In the North Pacific, SSTs were more than 1℃ above normal from 160°E to 165°W between 20°N and 45°N. SSTs were more than 0.5℃ below normal west of North America and from seas around the Kamchatka Peninsula to the Kuril Islands (Fig. 17).




旬平均沿岸水温 (℃)
Coastal Water Temperature

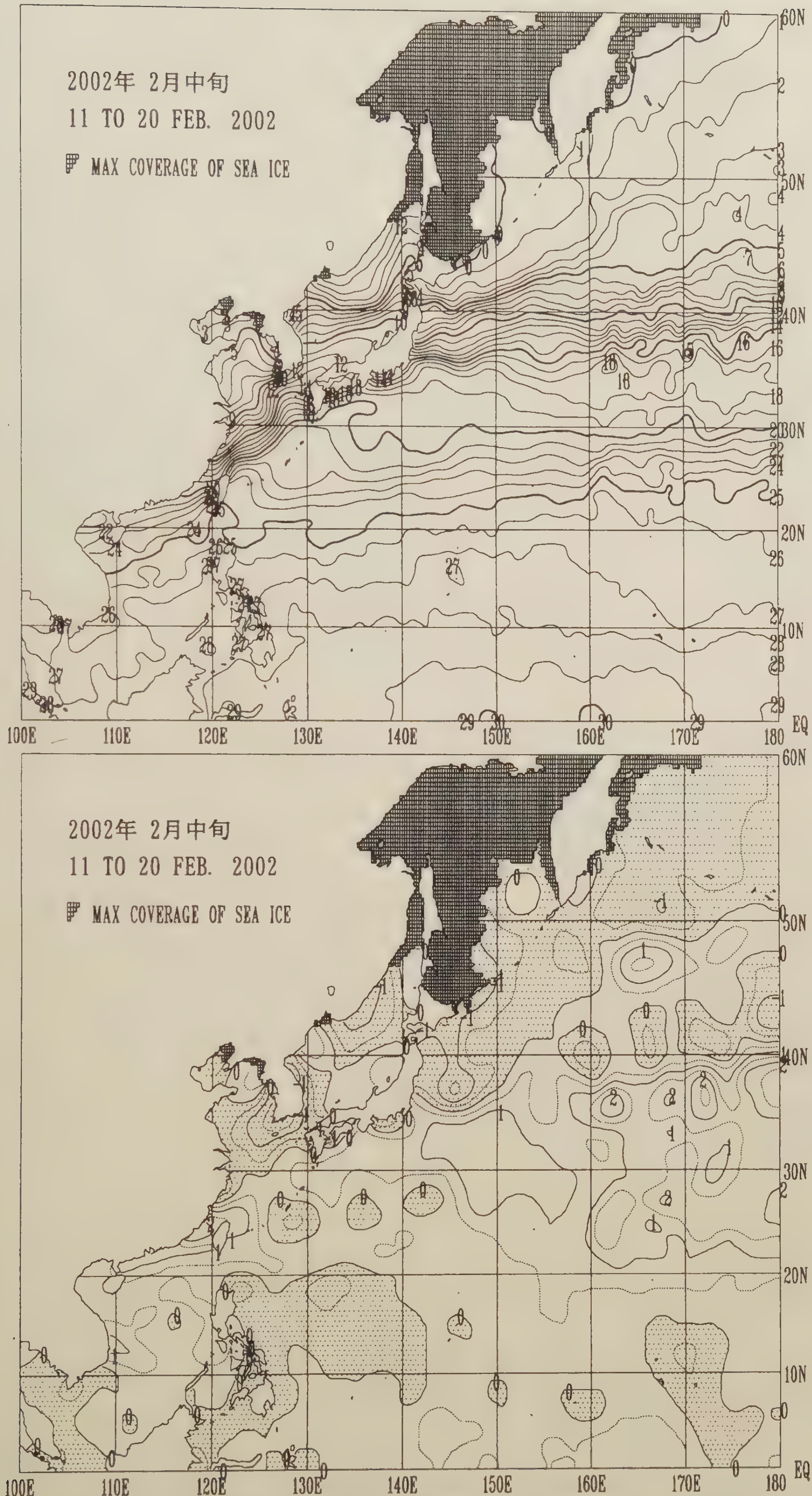
| 地点名 (Index Number) | 水温 Temp. | 偏差 Anom. |
|---|---|---|
| 石　垣 (47918) | 21.0 | 0.0 |
| 御前崎 (47655) | 10.5 | -0.3 |
| 八丈島 (47678) | 17.8 | 0.9 |
| 小名浜 (47598) | 11.5 | 1.8 |
| 宮　古 (47585) | 7.8 | 0.1 |
| 江　差 (47428) | 6.9 | 1.6 |
| 浜　田 (47755) | 11.9 | 0.6 |

第1図 北西太平洋旬平均海面水温図(上)及び偏差図(下) (2002年 2月上旬)

Fig. 1 Ten-day mean SST (top) and anomalies (bottom) in the western North Pacific for the 1st ten-day period in FEB 2002. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are spotted.

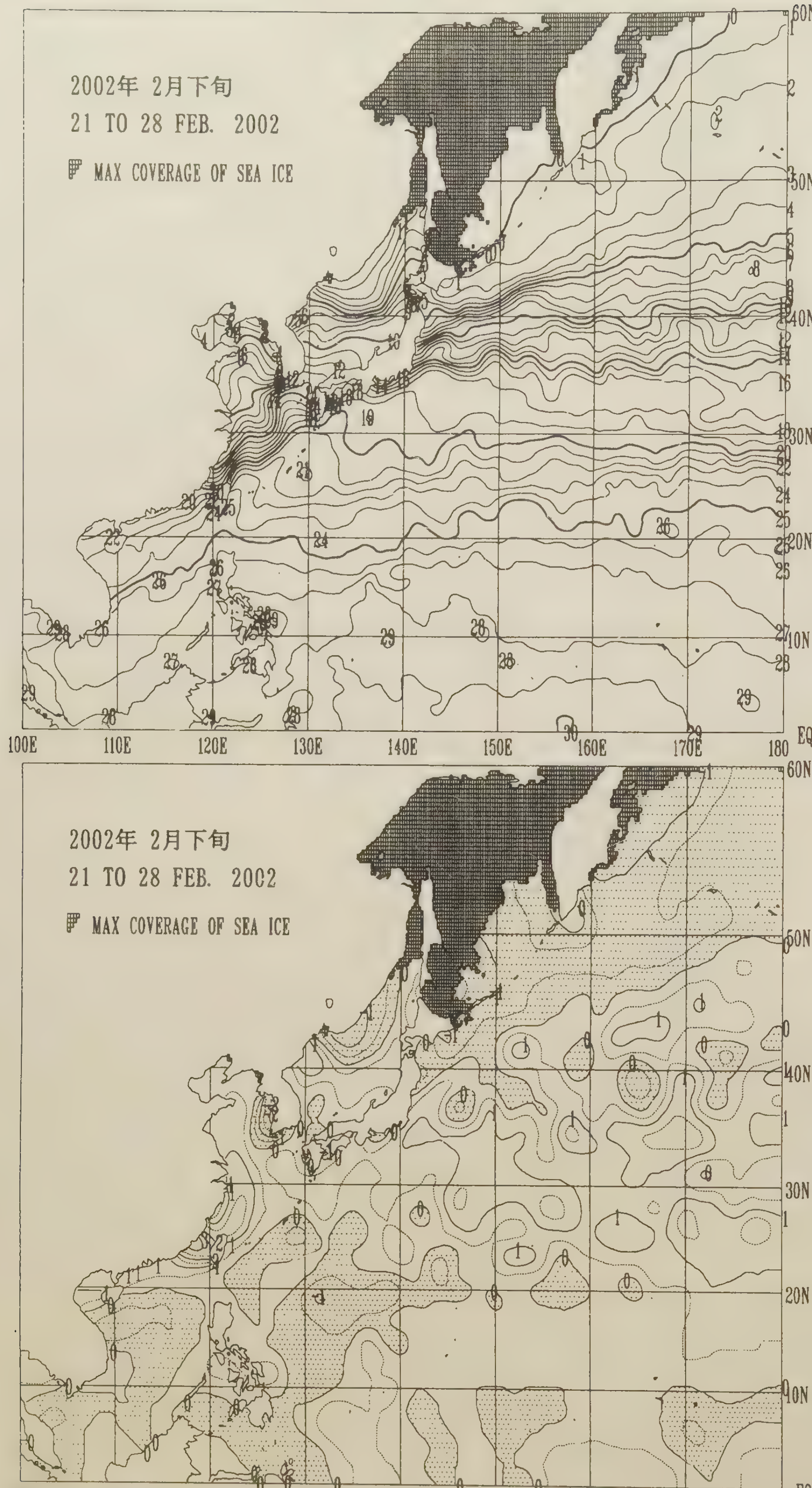
旬平均沿岸水温 (℃)
Coastal Water Temperature

| 地 点 名 (Index Number) | 水温 Temp. | 偏差 Anom. |
|---|---|---|
| 石　垣 (47918) | 21. 0 | -0. 4 |
| 御前崎 (47655) | 9. 9 | -1. 2 |
| 八丈島 (47678) | 17. 5 | 0. 5 |
| 小名浜 (47598) | 10. 5 | 0. 9 |
| 宮　古 (47585) | 6. 8 | -0. 4 |
| 江　差 (47428) | 5. 3 | 0. 1 |
| 浜　田 (47755) | 10. 8 | -0. 8 |




第2図 北西太平洋旬平均海面水温図 (上) 及び偏差図 (下) (2002年 2月中旬)

Fig. 2 Ten-day mean SST (top) and anomalies (bottom) in the western North Pacific for the 2nd ten-day period in FEB 2002. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are spotted.

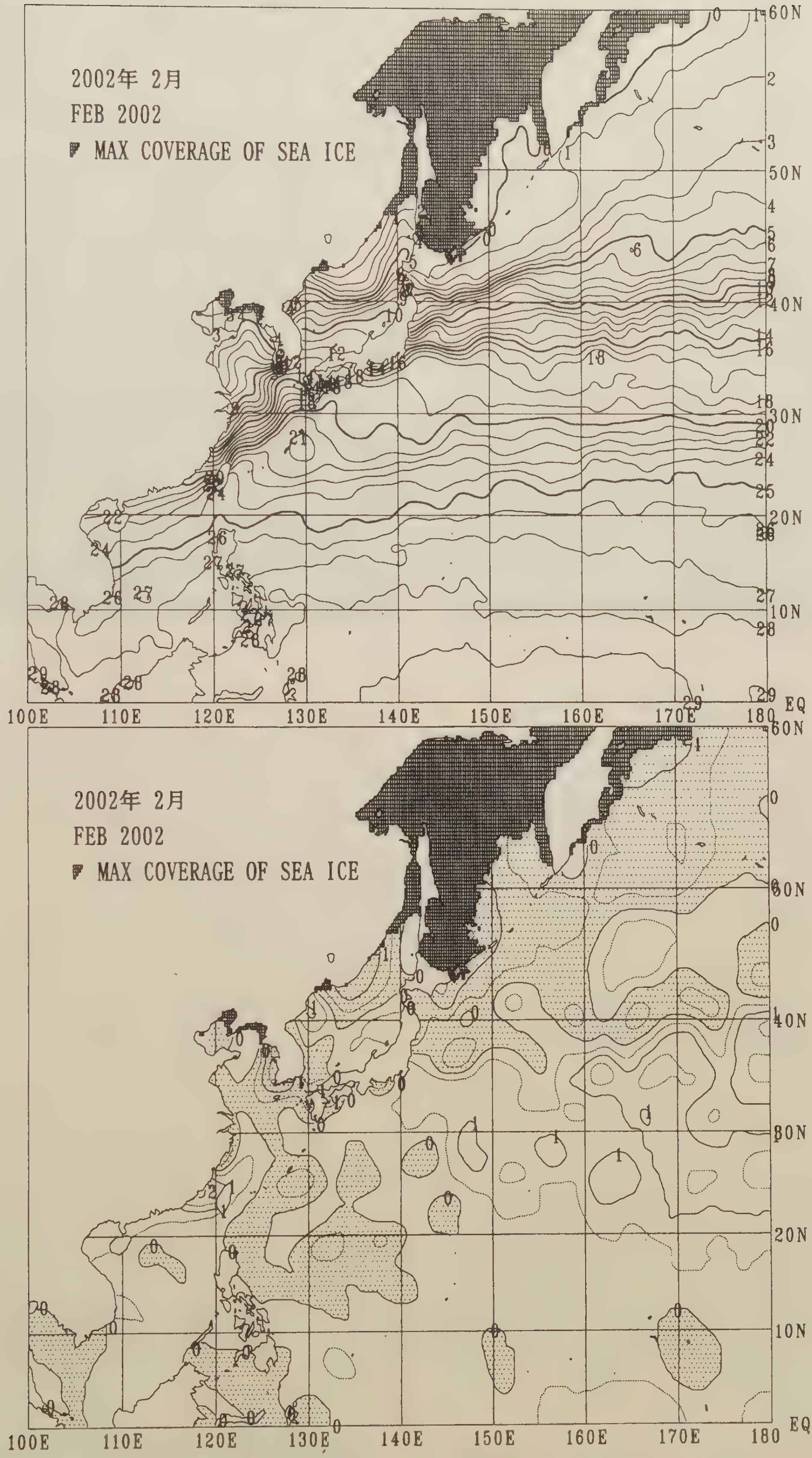



旬平均沿岸水温(℃)
Coastal Water Temperature

| 地点名 (Index Number) | 水温 Temp. | 偏差 Anom. |
|---|---|---|
| 石　垣(47918) | 21.6 | 0.2 |
| 御前崎(47655) | 10.7 | -0.5 |
| 八丈島(47678) | 18.0 | 1.0 |
| 小名浜(47598) | 9.4 | 0.2 |
| 宮　古(47585) | 6.5 | -0.1 |
| 江　差(47428) | 6.8 | 1.5 |
| 浜　田(47755) | 12.5 | 1.1 |

第3図 北西太平洋旬平均海面水温図(上)及び偏差図(下) (2002年 2月下旬)

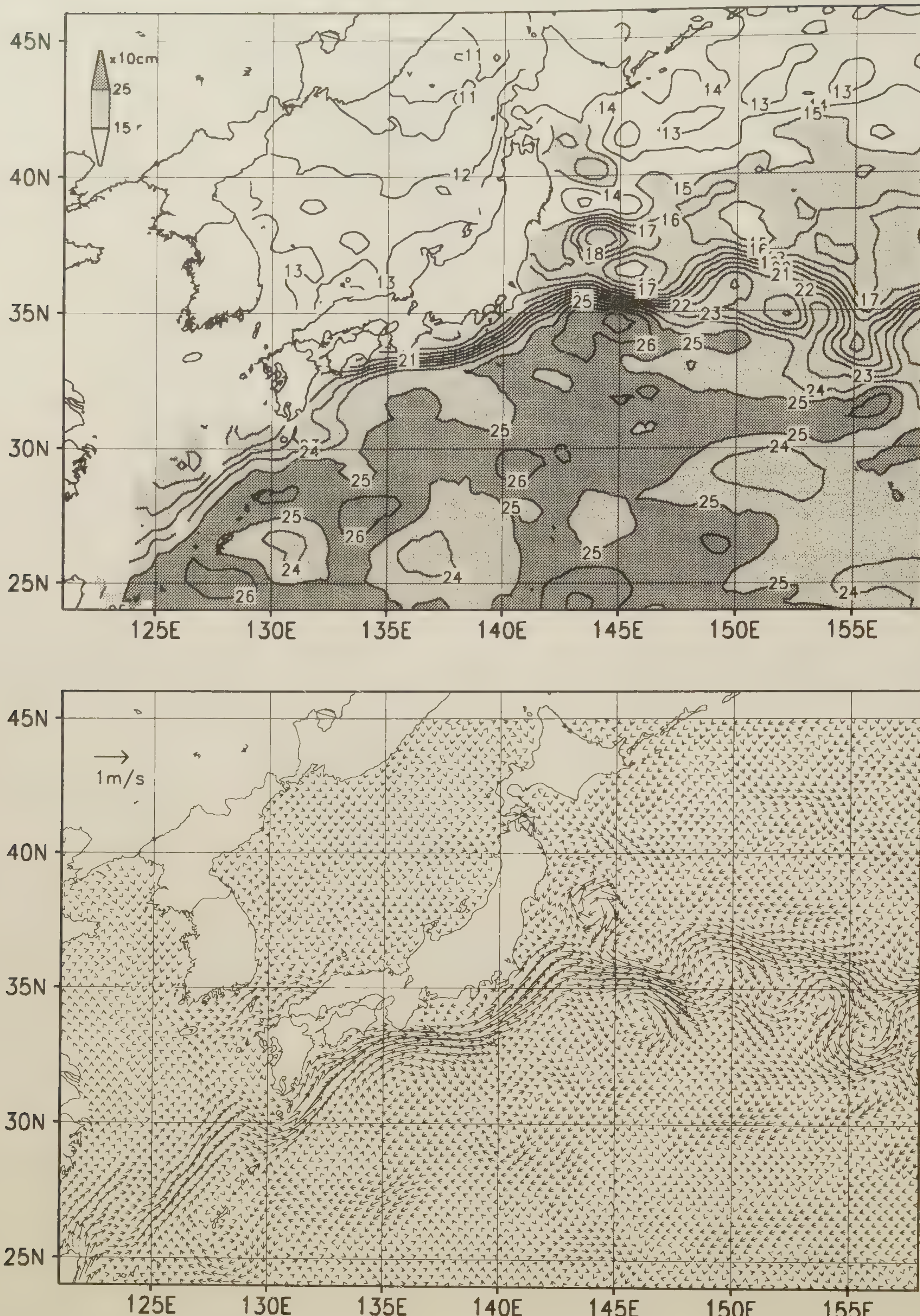
Fig.3 Ten-day mean SST (top) and anomalies (bottom) in the western North Pacific for the 3rd ten-day period in FEB 2002. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are spotted.




第4図 北西太平洋月平均海面水温図(上)及び偏差図(下) (2002年 2月)

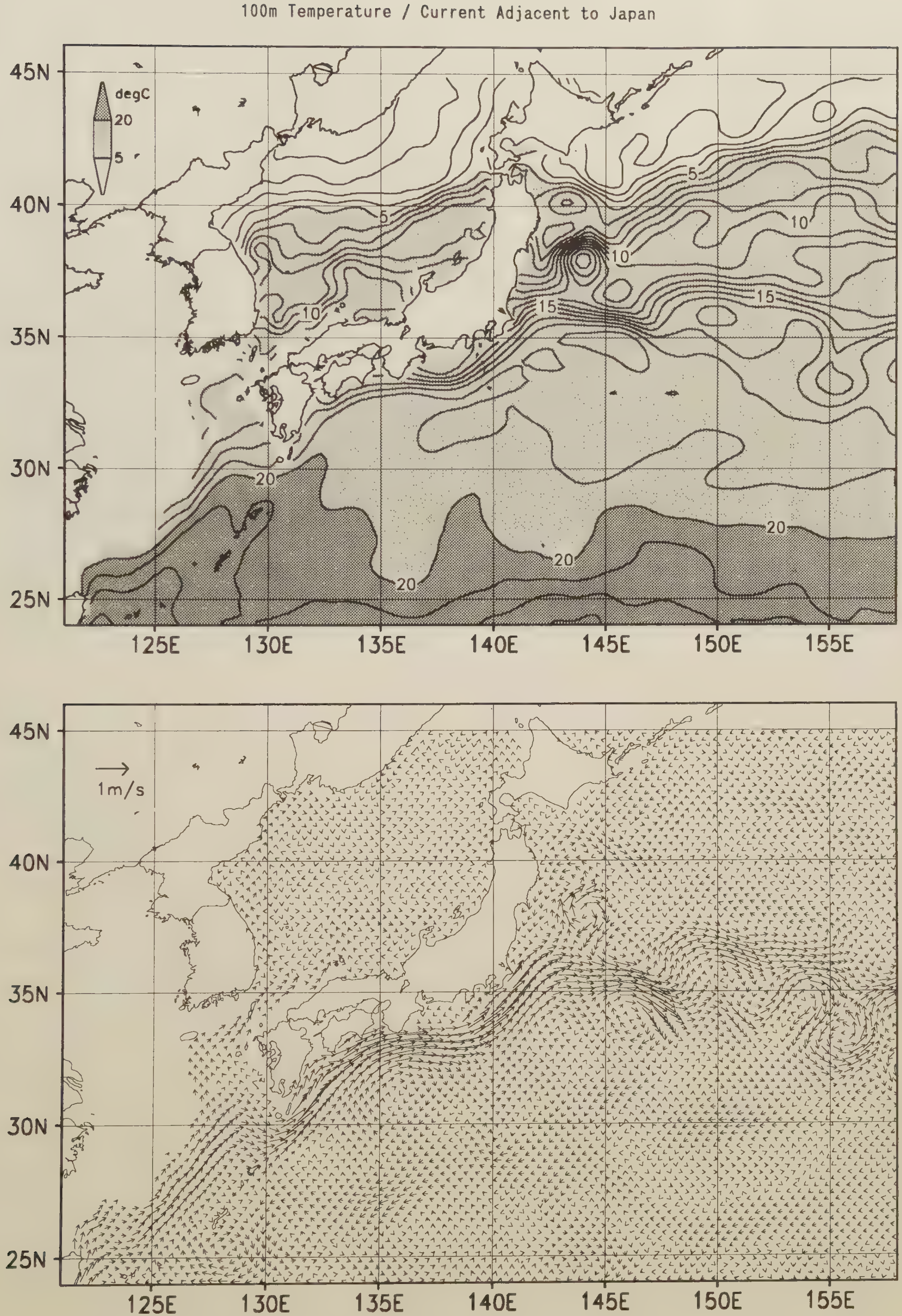
Fig. 4 Monthly mean SST (top) and anomalies (bottom) in the western North Pacific for FEB 2002. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are spotted.

Dynamic Height / Sea Surface Current Adjacent to Japan



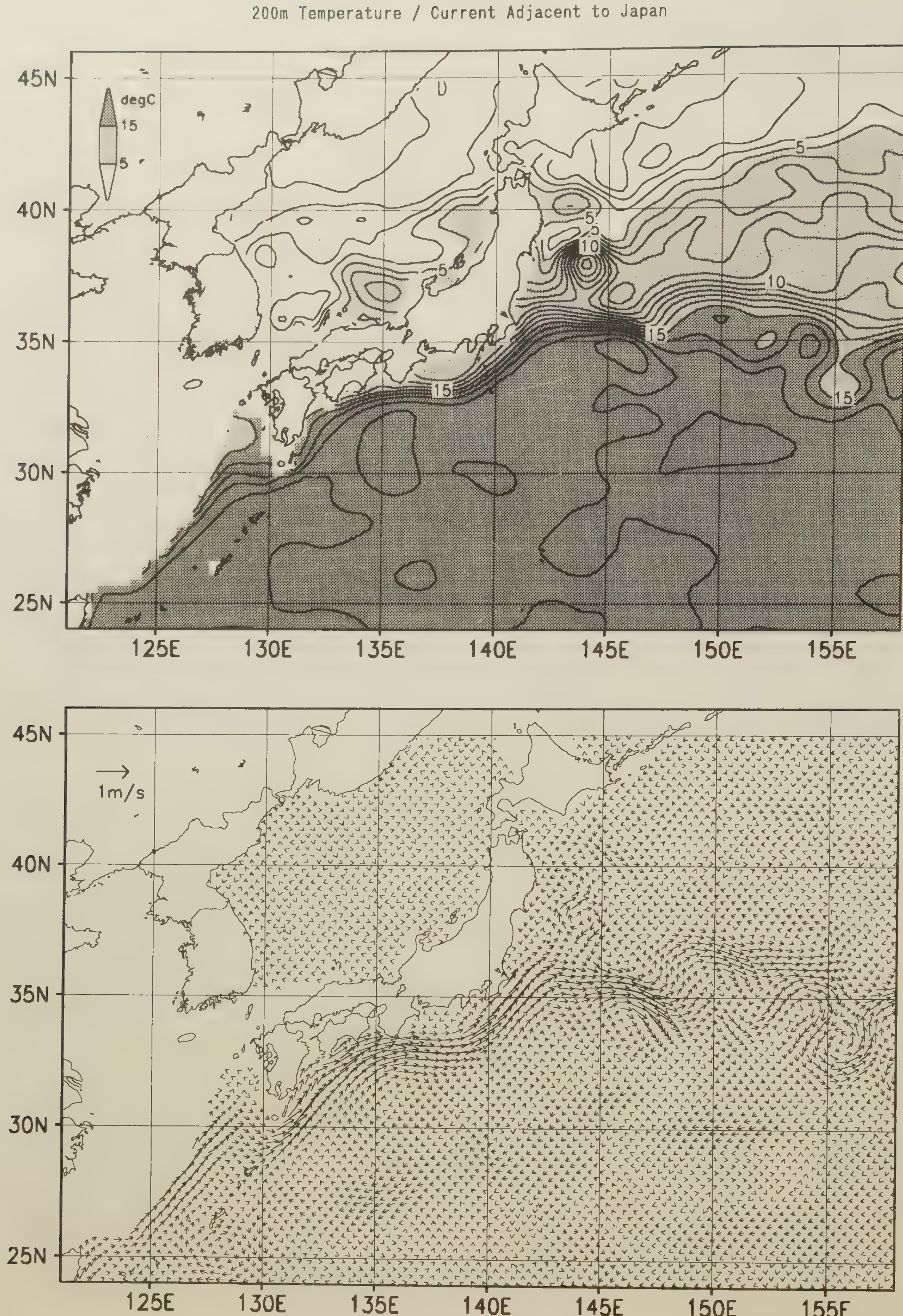

第５図　日本近海月平均海面高度分布図 (上) と海面海流図 (下) (2002 年 2 月)
（海洋総合解析システムによる）

Fig. 5　Monthly mean sea surface height (top) and current (bottom) in seas adjacent to Japan for February 2002. Contour interval is 10cm (top). (calculated by the Ocean Comprehensive Analysis System)



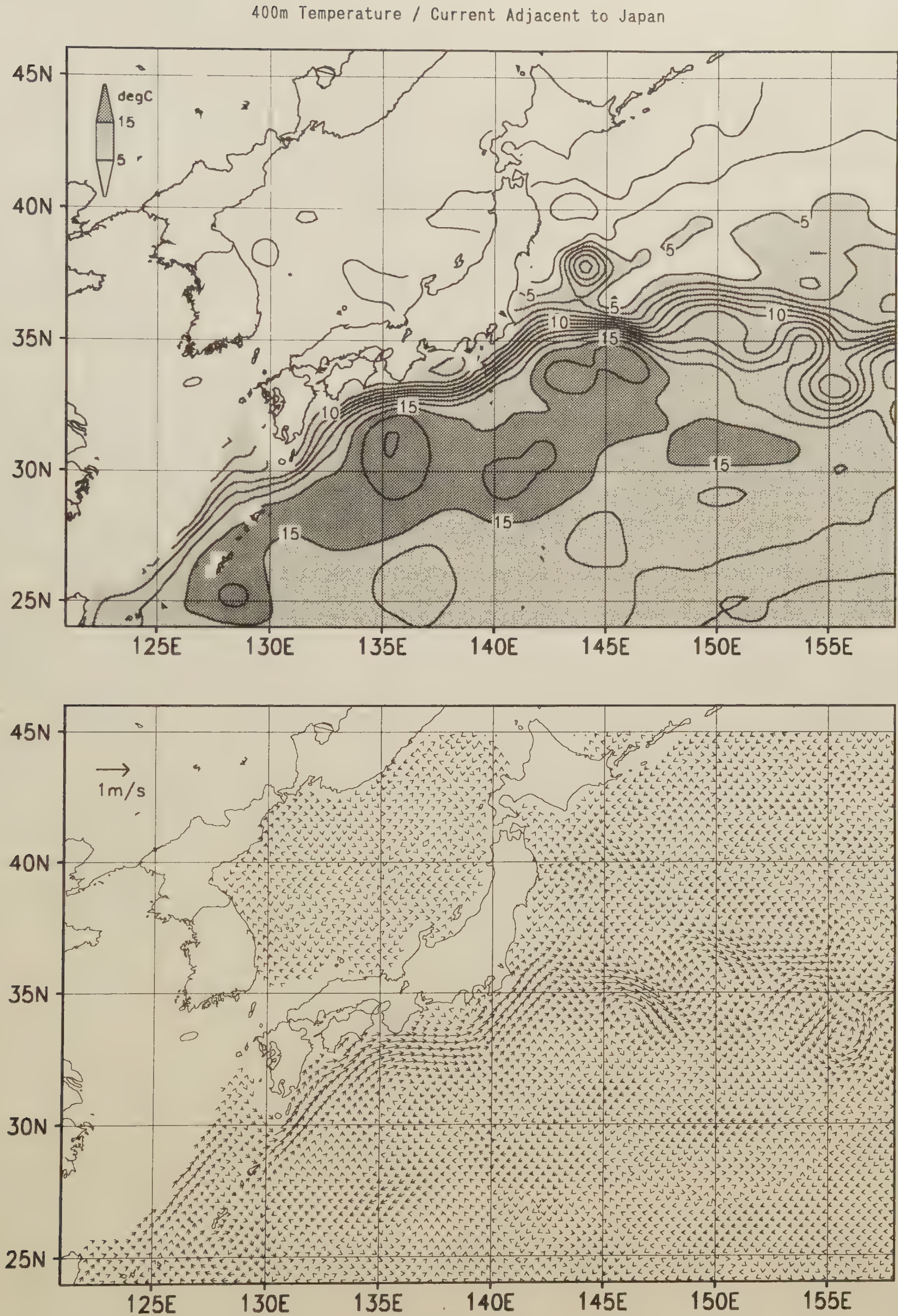

第 6 図　日本近海月平均表層水温図（上）と表層海流図（下）（深さ 100 m）（2002 年 2 月）
（海洋総合解析システムによる）

Fig. 6　Monthly mean subsurface (100 m) temperature (top) and current (bottom) in seas adjacent to Japan for February 2002. Contour interval is 1 ℃ (top). (calculated by the Ocean Comprehensive Analysis System)



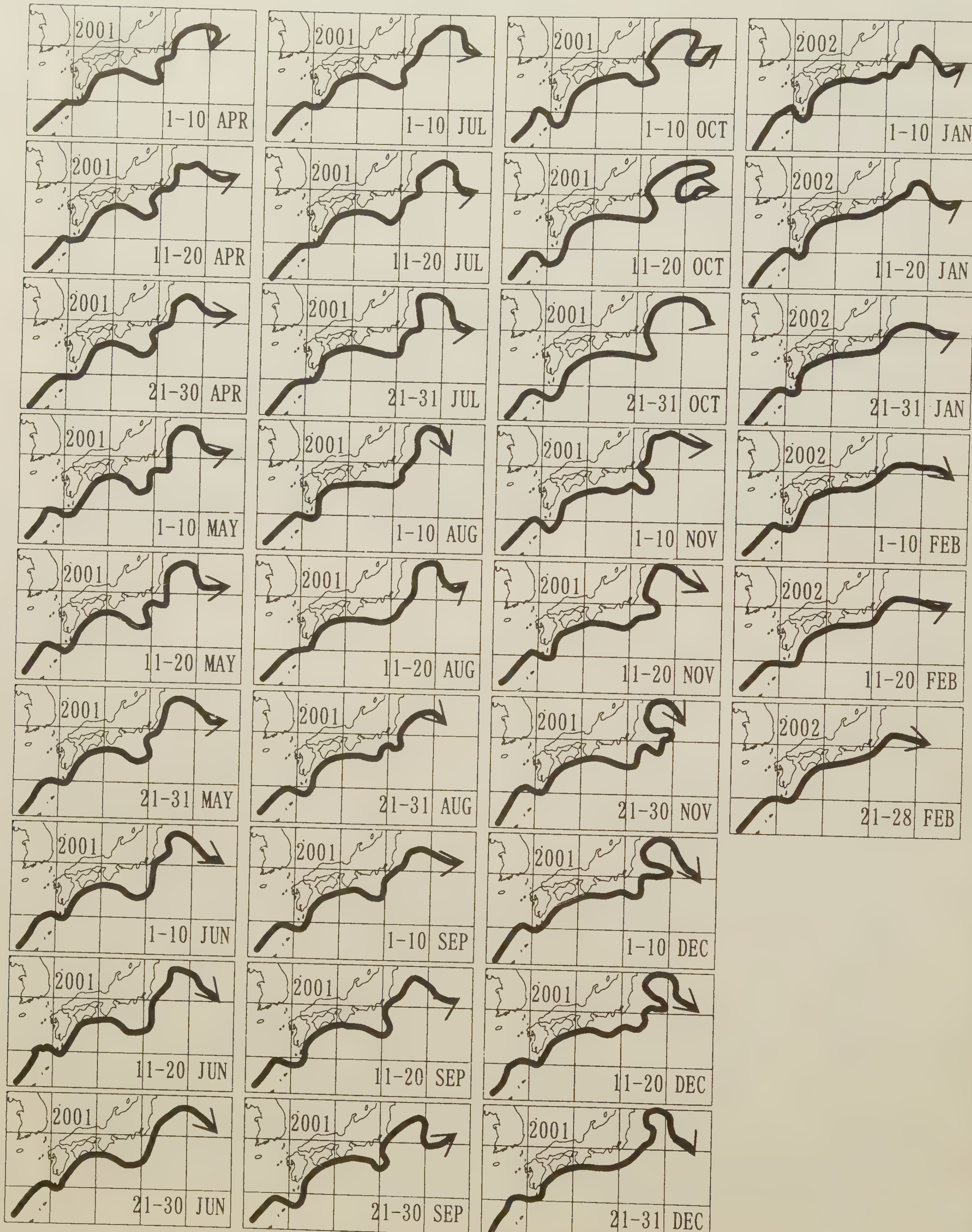

第７図　日本近海月平均表層水温図（上）と表層海流図（下）（深さ 200 m）（2002 年 2 月）
（海洋総合解析システムによる）

Fig. 7　Monthly mean subsurface (200 m) temperature (top) and current (bottom) in seas adjacent to Japan for February 2002. Contour interval is 1 ℃ (top). (calculated by the Ocean Comprehensive Analysis System)



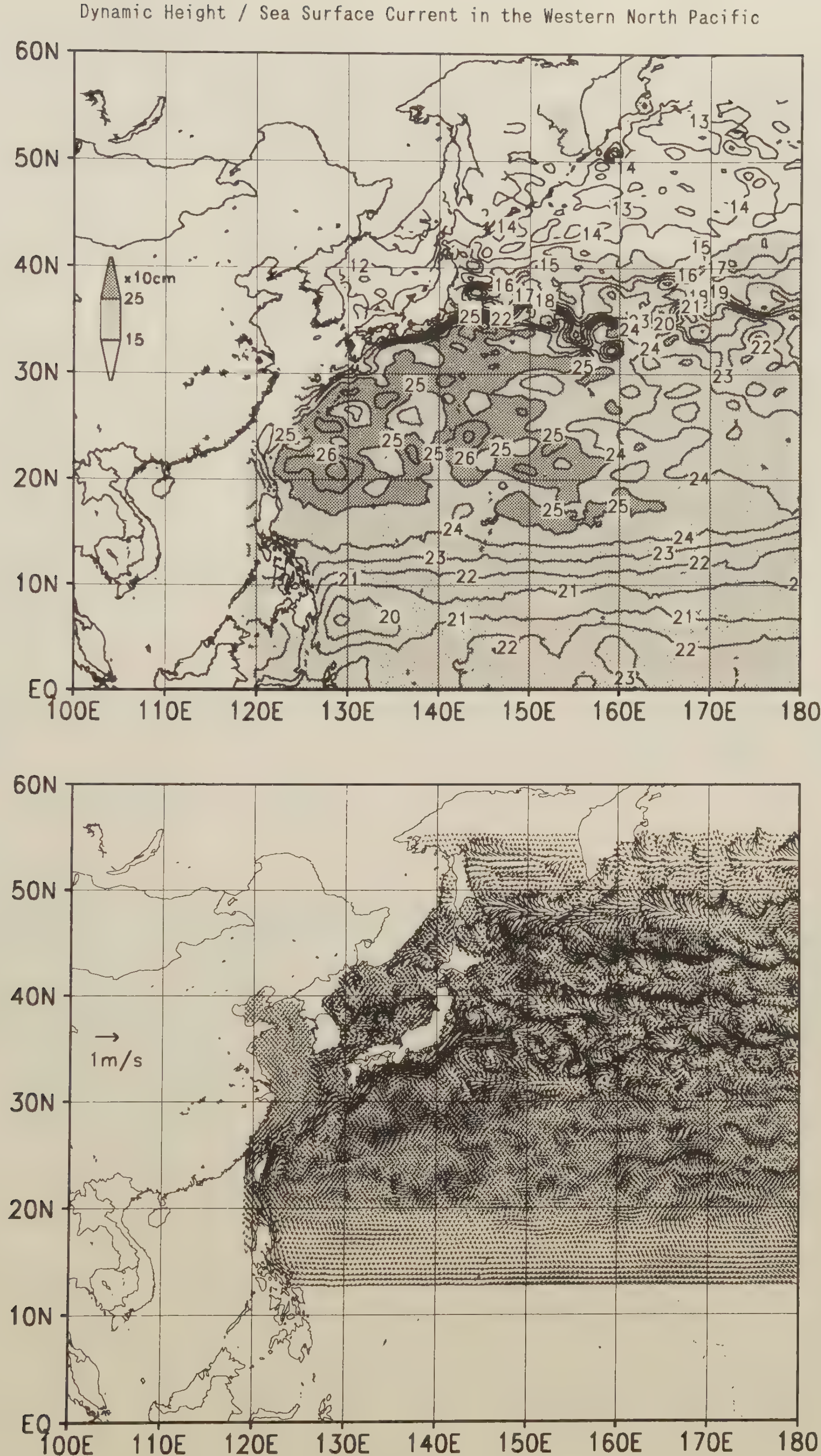

第 8 図　日本近海月平均表層水温図（上）と表層海流図（下）（深さ 400 m）(2002 年 2 月)
（海洋総合解析システムによる）

Fig. 8　Monthly mean subsurface (400 m) temperature (top) and current (bottom) in seas adjacent to Japan for February 2002. Contour interval is 1 ℃ (top). (calculated by the Ocean Comprehensive Analysis System)



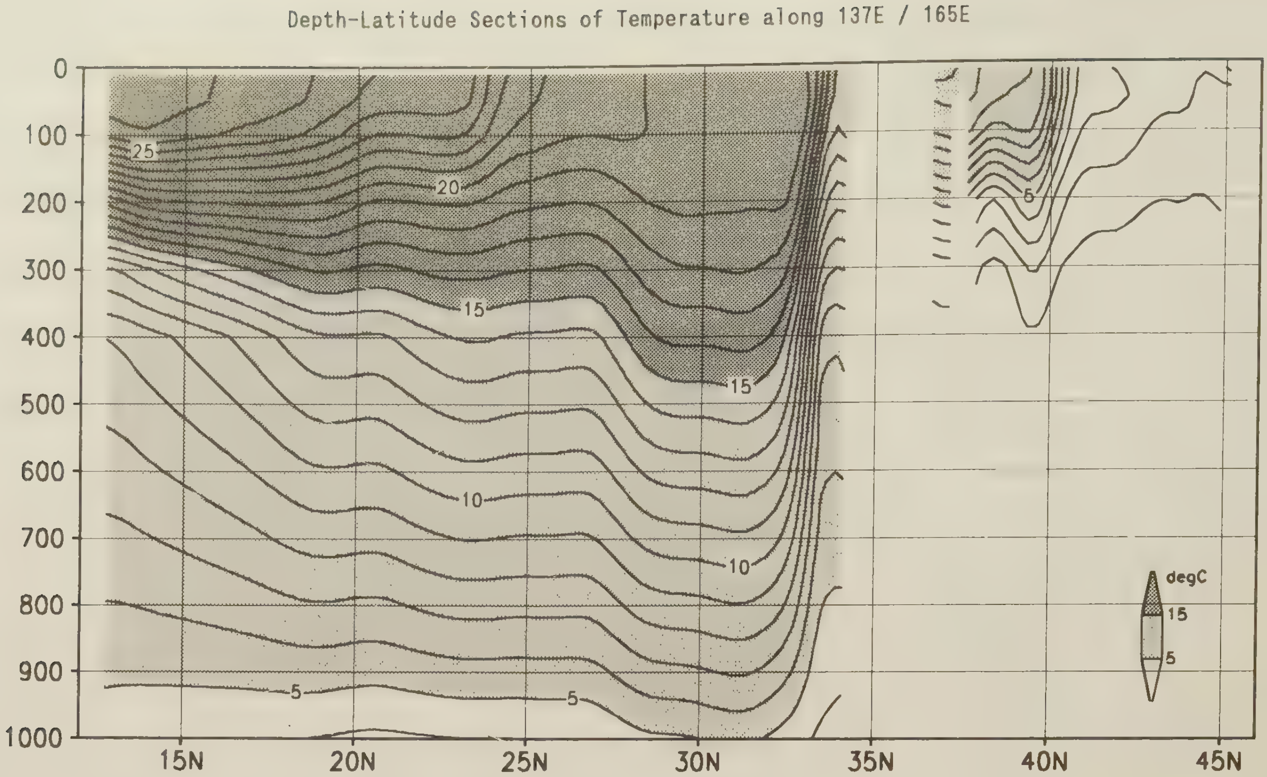

第9図 旬別黒潮流軸図

Fig. 9 Location of the Kuroshio axis



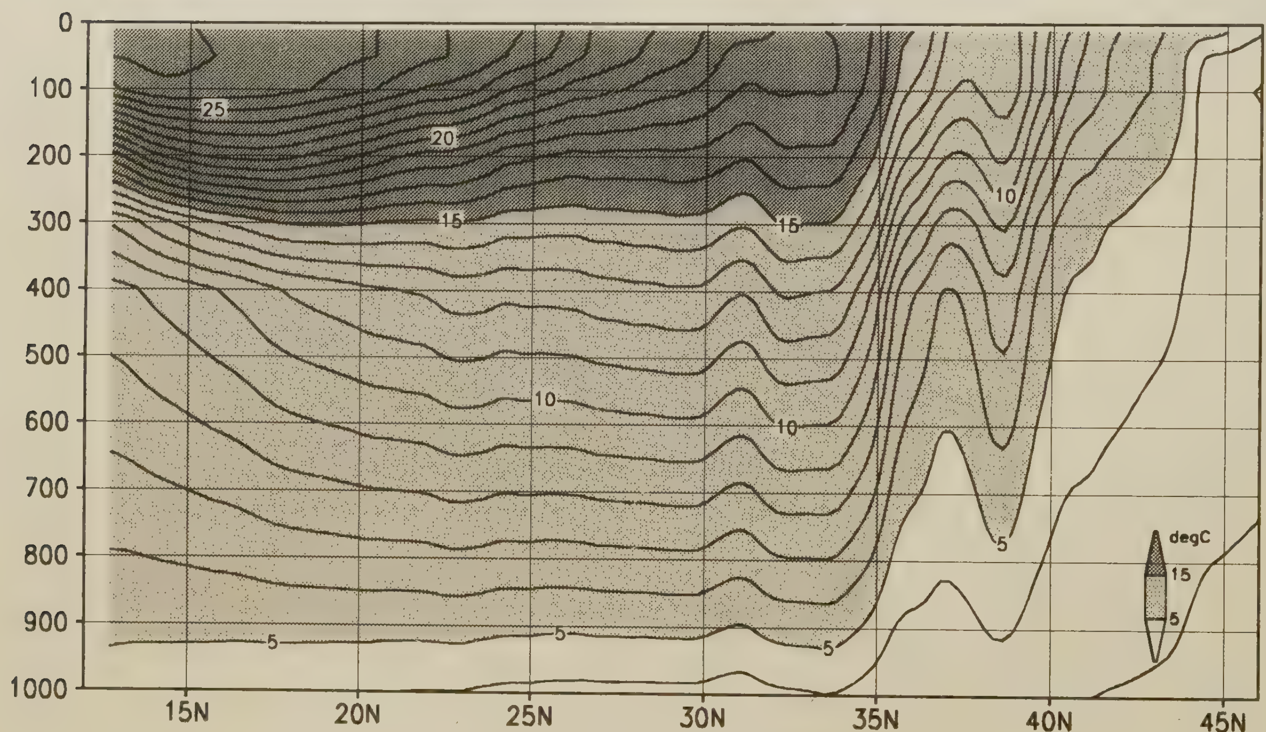

第 10 図　北西太平洋月平均海面高度分布図 (上) と海面海流図 (下) (2002 年 2 月)
(海洋総合解析システムによる)

Fig. 10　Monthly mean sea surface height (top) and current (bottom) in the western North Pacific for February 2002. Contour interval is 10cm (top). (calculated by the Ocean Comprehensive Analysis System)



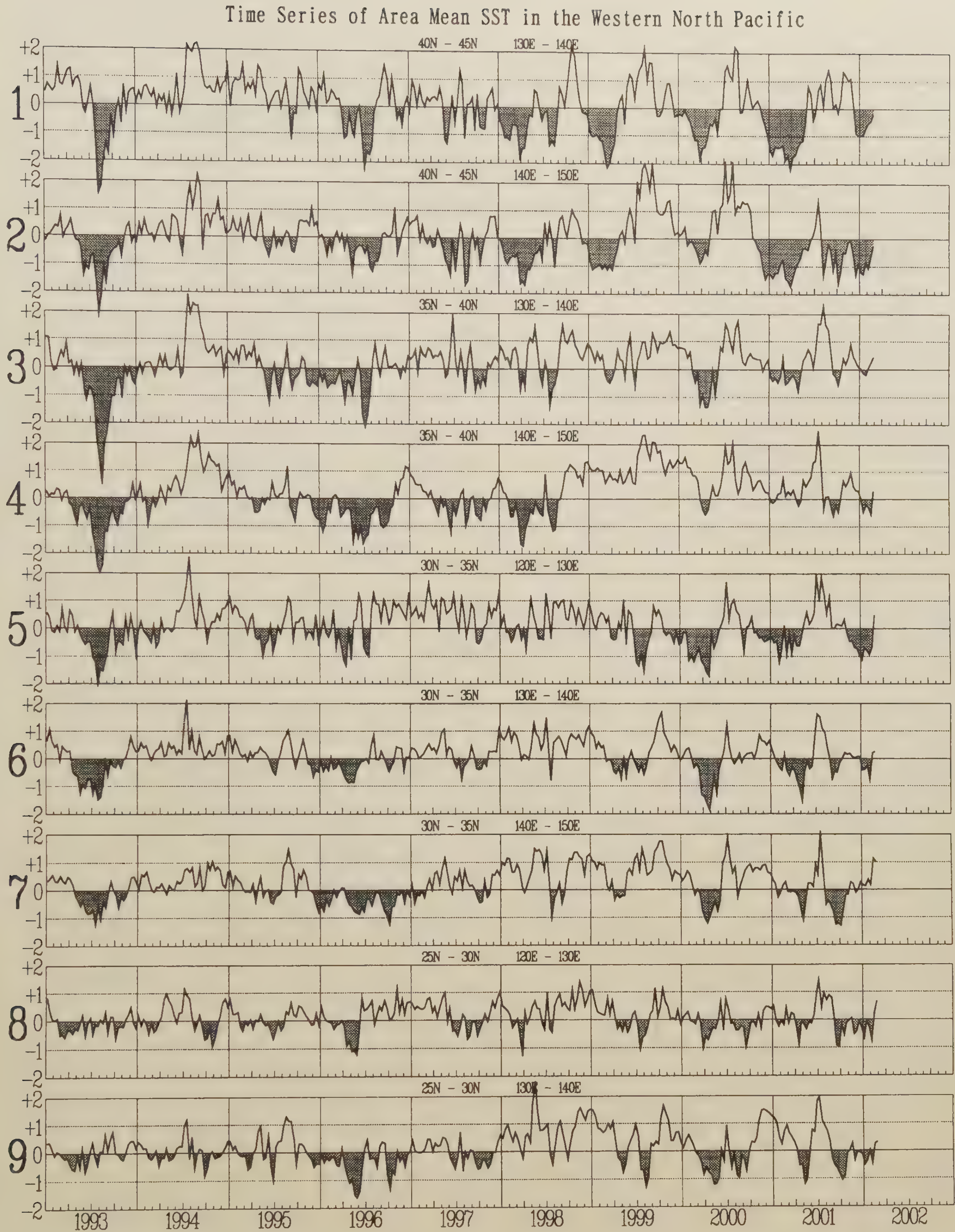

第 11 図　東経 137° 線に沿う月平均表層水温の鉛直断面図 （2002 年 2 月）
（海洋総合解析システムによる）

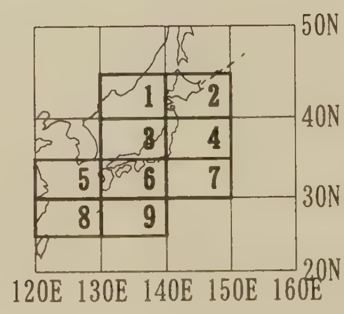
Fig. 11　Vertical cross section of monthly mean temperature along 137 °E for February 2002. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)




第 12 図　東経 165° 線に沿う月平均表層水温の鉛直断面図 （2002 年 2 月）
（海洋総合解析システムによる）

Fig. 12　Vertical cross section of monthly mean temperature along 165 °E for February 2002. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)

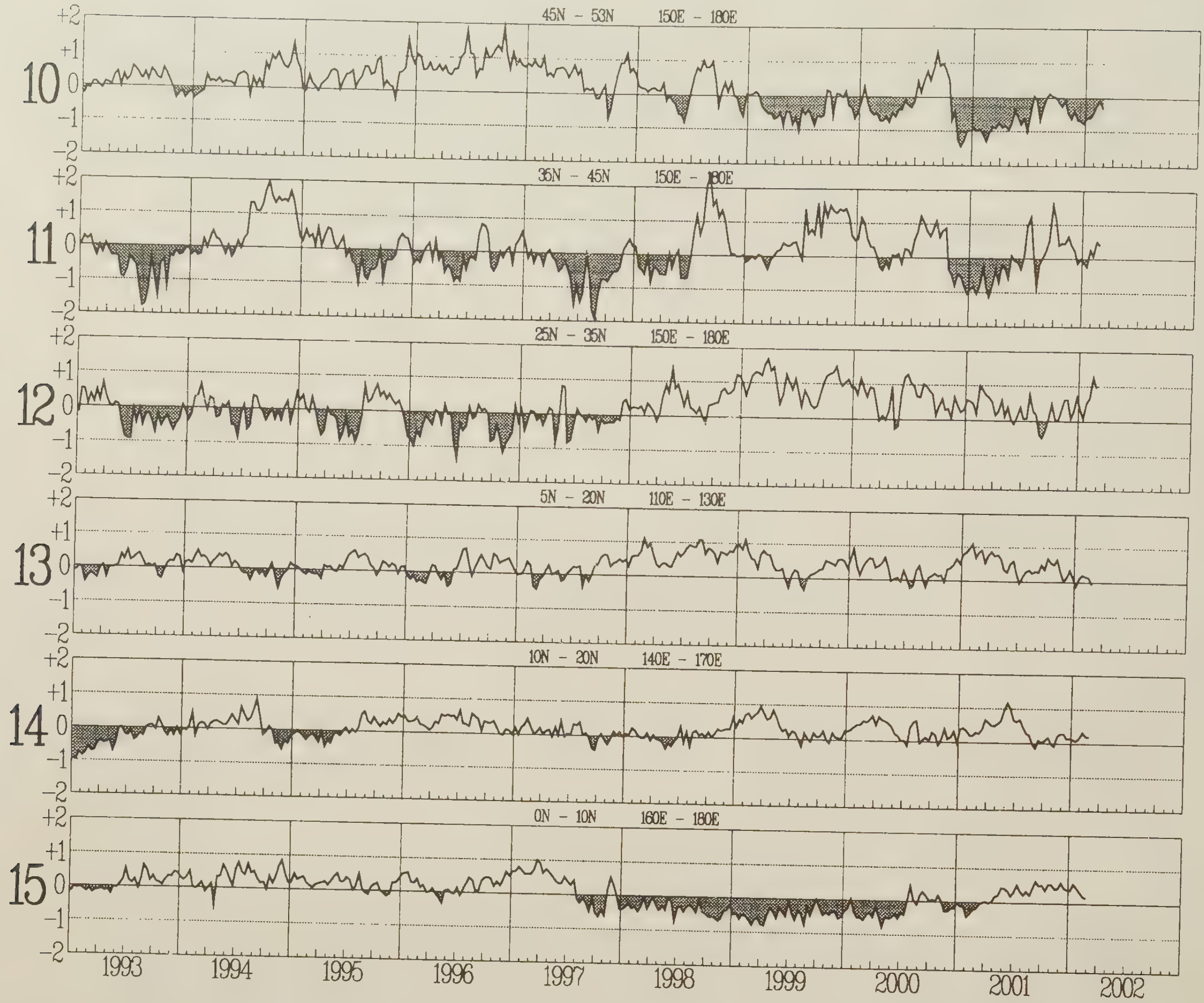



第13図　海域別旬平均海面水温平年偏差時系列図

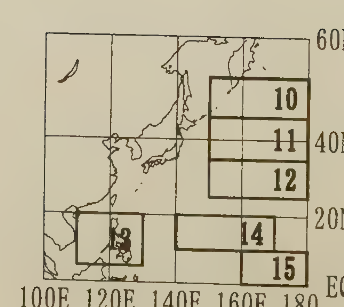
Fig. 13 Time series of the ten-day mean SST anomalies (°C) in the western North Pacific for the areas shown in the right panel. Negative anomalies are shaded. Anomalies are computed from the JMA climatology (1971-2000).

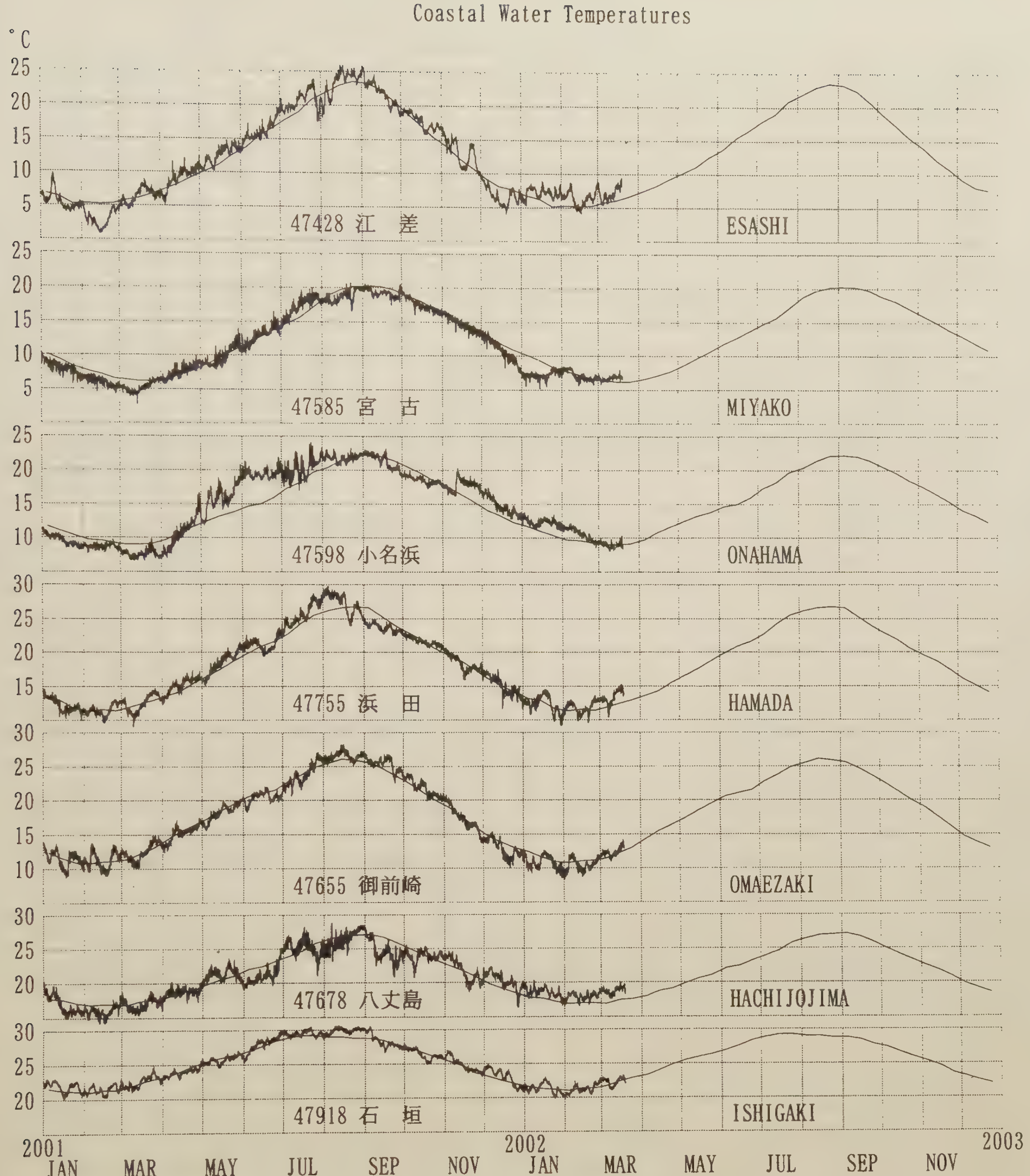
Time Series of Area Mean SST in the Western North Pacific




第13図　海域別旬平均海面水温平年偏差時系列図（つづき）

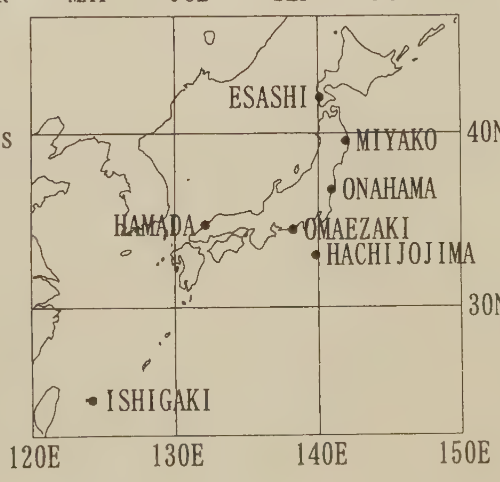
Fig. 13 (continue) Time series of the ten-day mean SST anomalies (°C) in the western North Pacific for the areas shown in the right panel. Negative anomalies are shaded. Anomalies are computed from the JMA climatology (1971-2000).

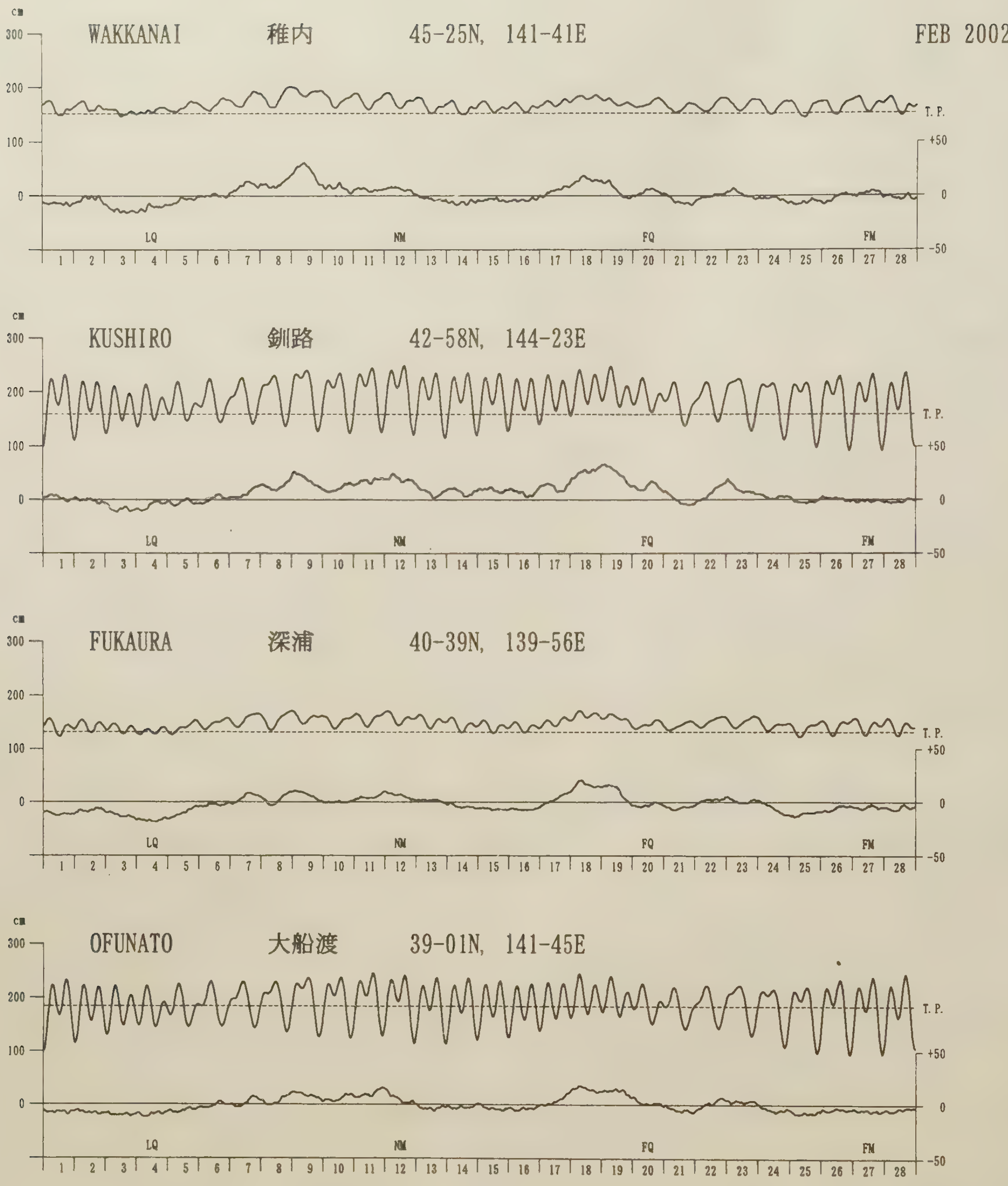





第14図 沿岸水温時系列図

Fig. 14 Time series of hourly coastal water temperatures (°C) measured at 7 coastal stations of the JMA shown in the right panel.
Thin lines show ten-day mean climatology.

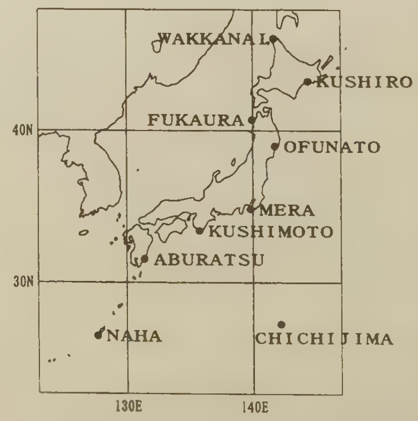


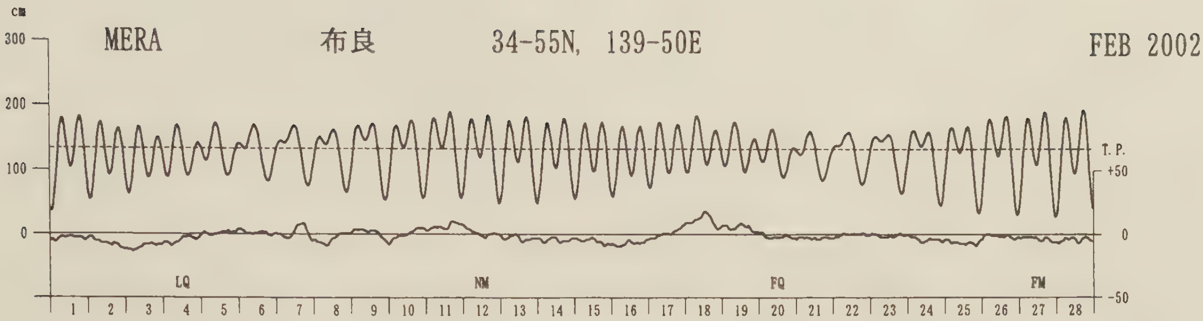


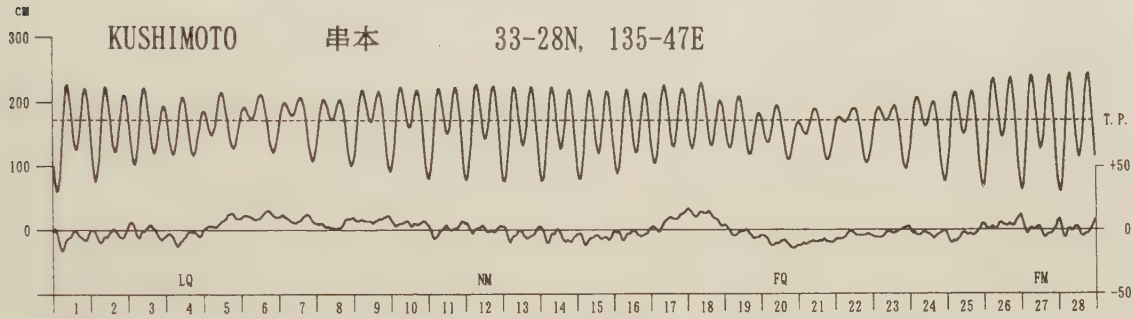

第15図 沿岸潮位時系列図（2002年 2月）

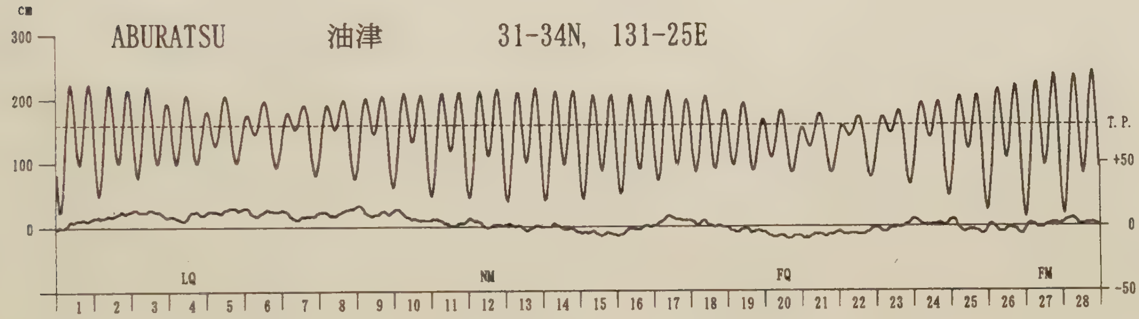
Fig. 15 Time series of hourly sea level observation (upper line) and its anomalies (lower line) at 9 stations of the JMA in the right panel.
Short term variations are removed from raw data.

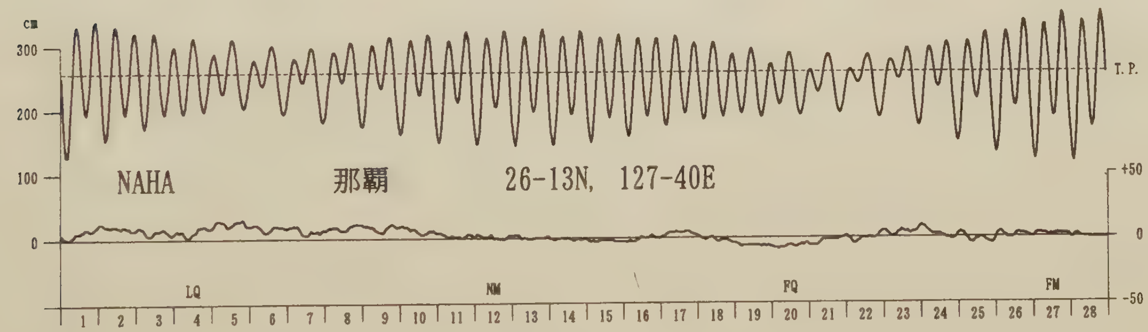
NM: new moon, FQ: first quarter
FM: full moon, LQ: last quarter
T. P. : Mean sea level of Tokyo Bay (Tokyo Peil)

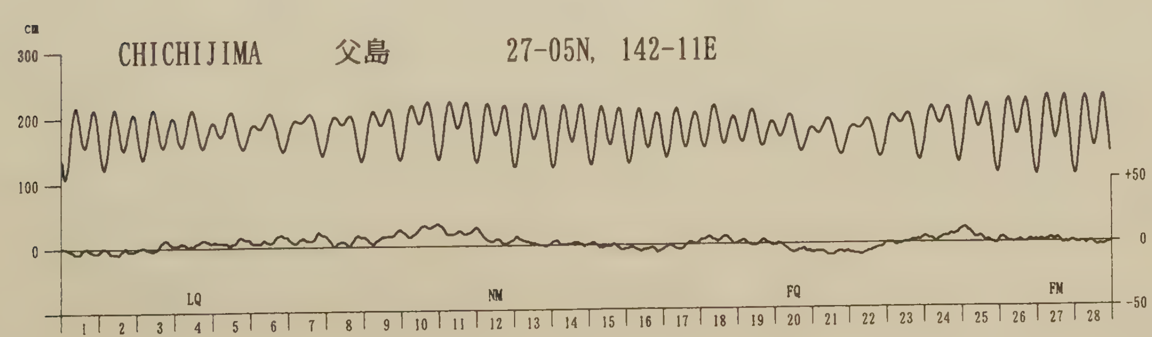




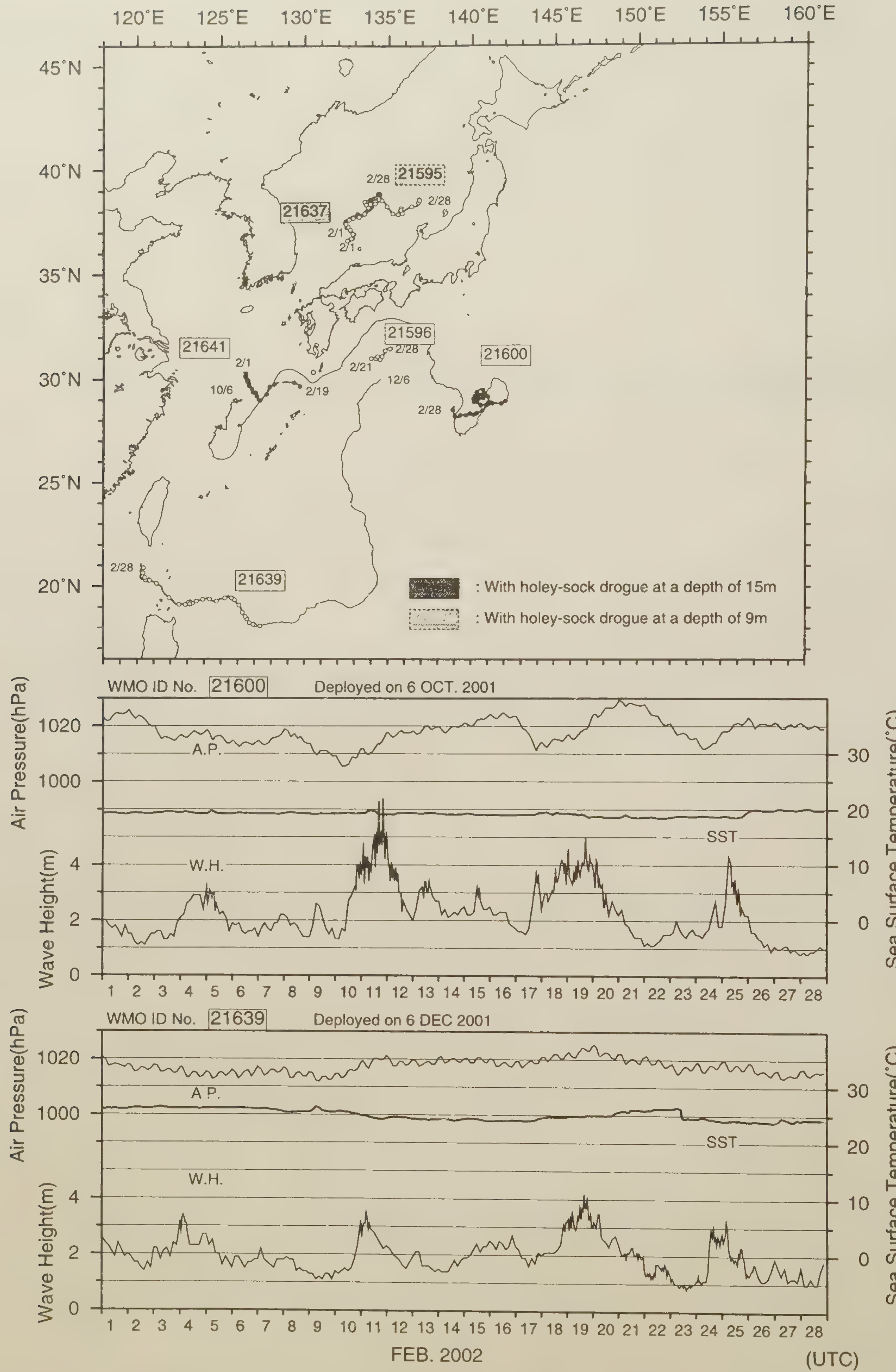



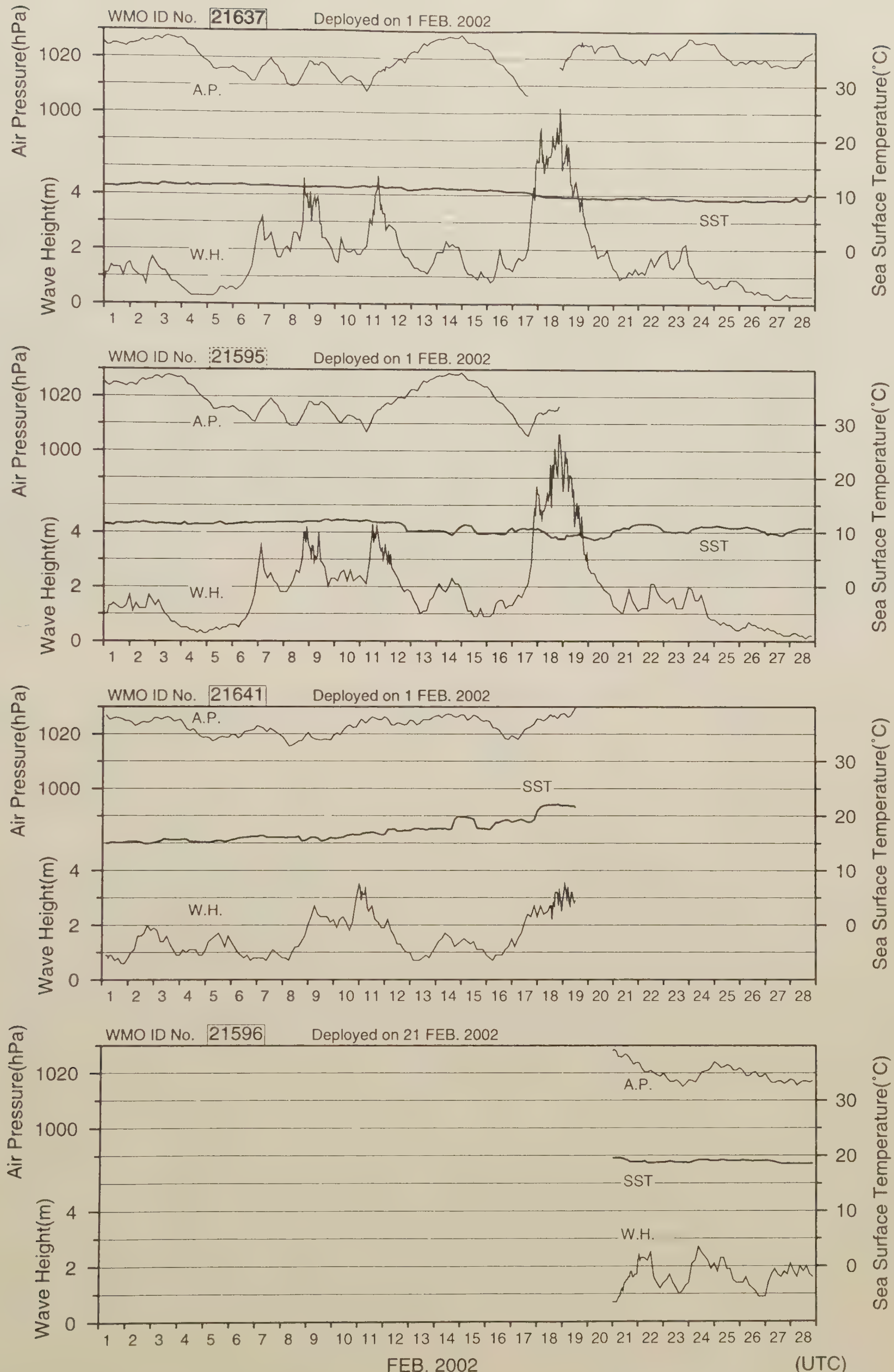

第15図 つづき

Fig. 15 continue

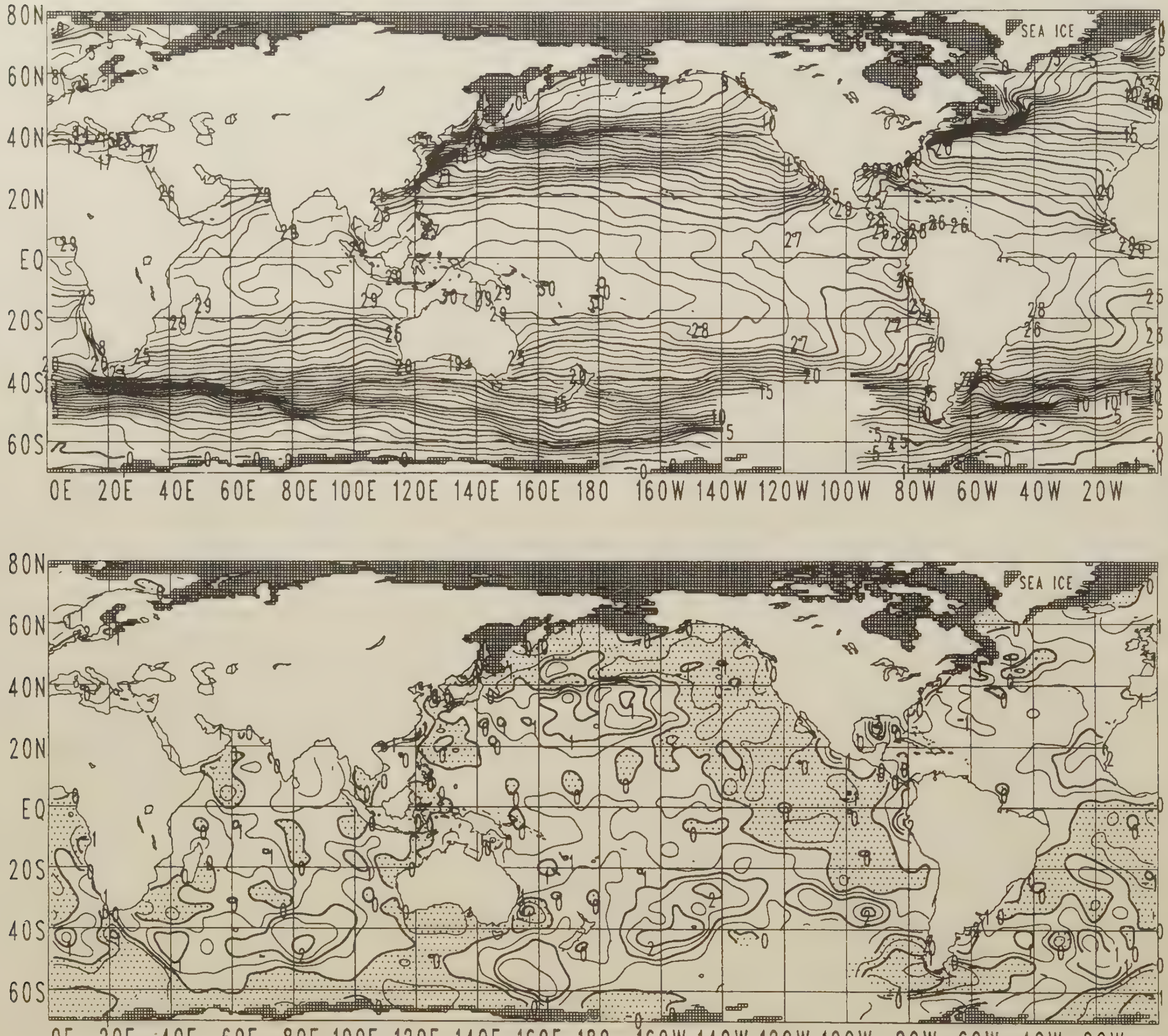



第16図　漂流型海洋気象ブイロボットの軌跡と観測要素の時系列図

Fig.16　Time series of JMA drifting buoy observation.
The upper panel shows paths of the buoys. Circles denote the position at 00h UTC everyday.
The lower panel shows time series of observation data.

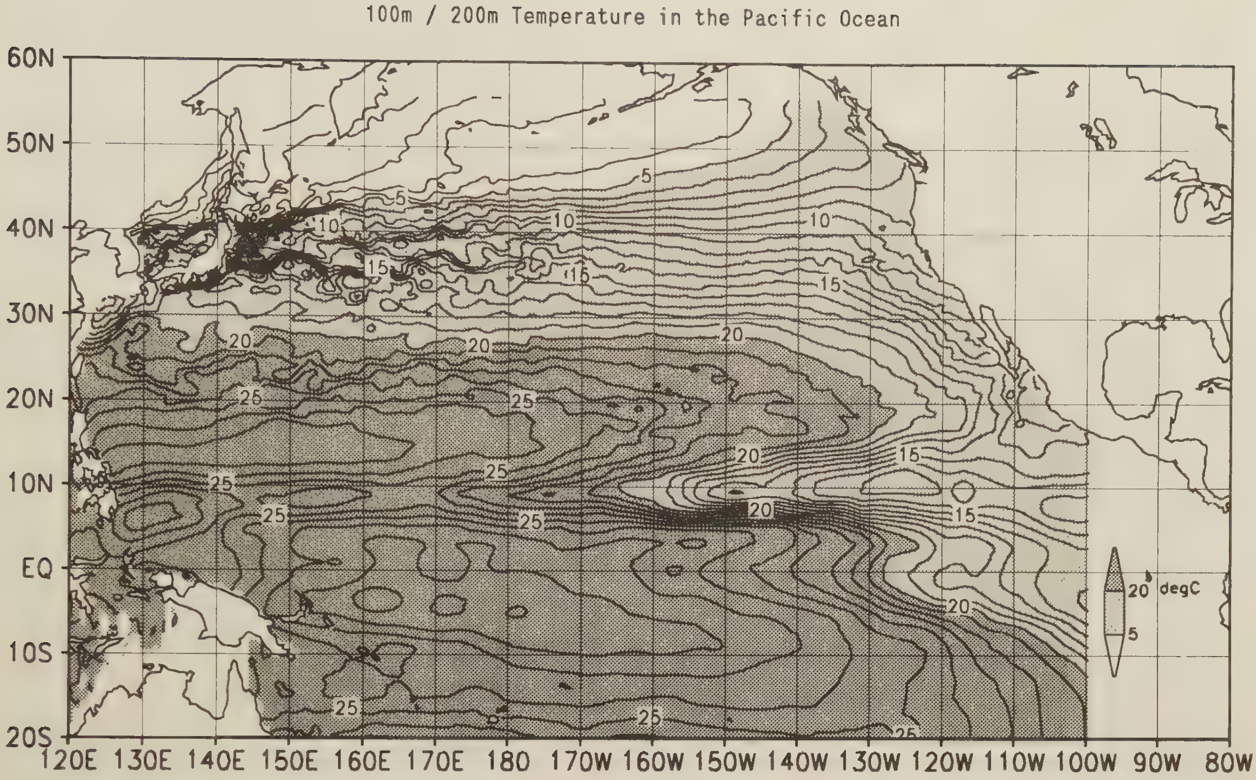



第16図 つづき
Fig.16 continue



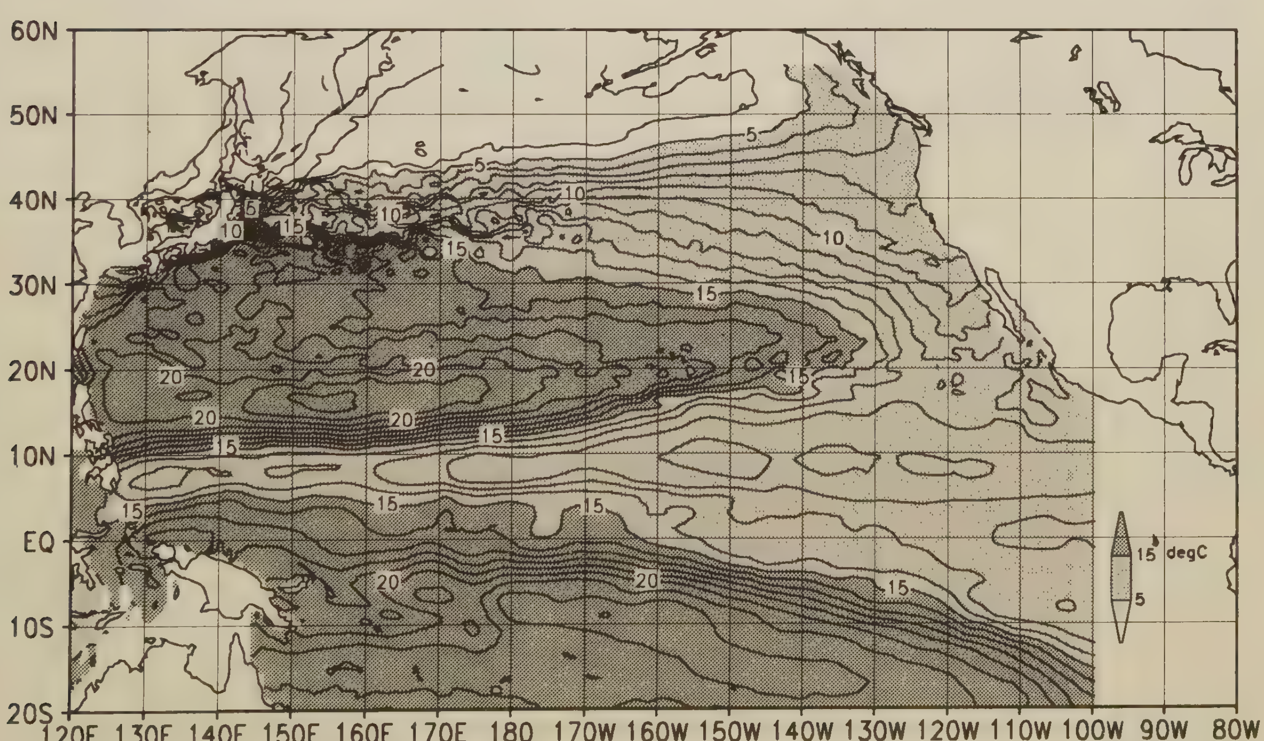

第17図　全球月平均海面水温図（上）及び偏差図（下）（2002年 2月）

Fig. 17 Monthly mean SST over the global ocean (top) and anomalies (bottom) for FEB 2002. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C (top) and additional anomaly contours of ±0.5°C are shown by thin lines. Negative anomalies are spotted. Maximum coverage of sea ice is shaded. Data sources for sea ice are U.S. National Ice Center (polar regions) and JMA (the Sea of Okhotsk).



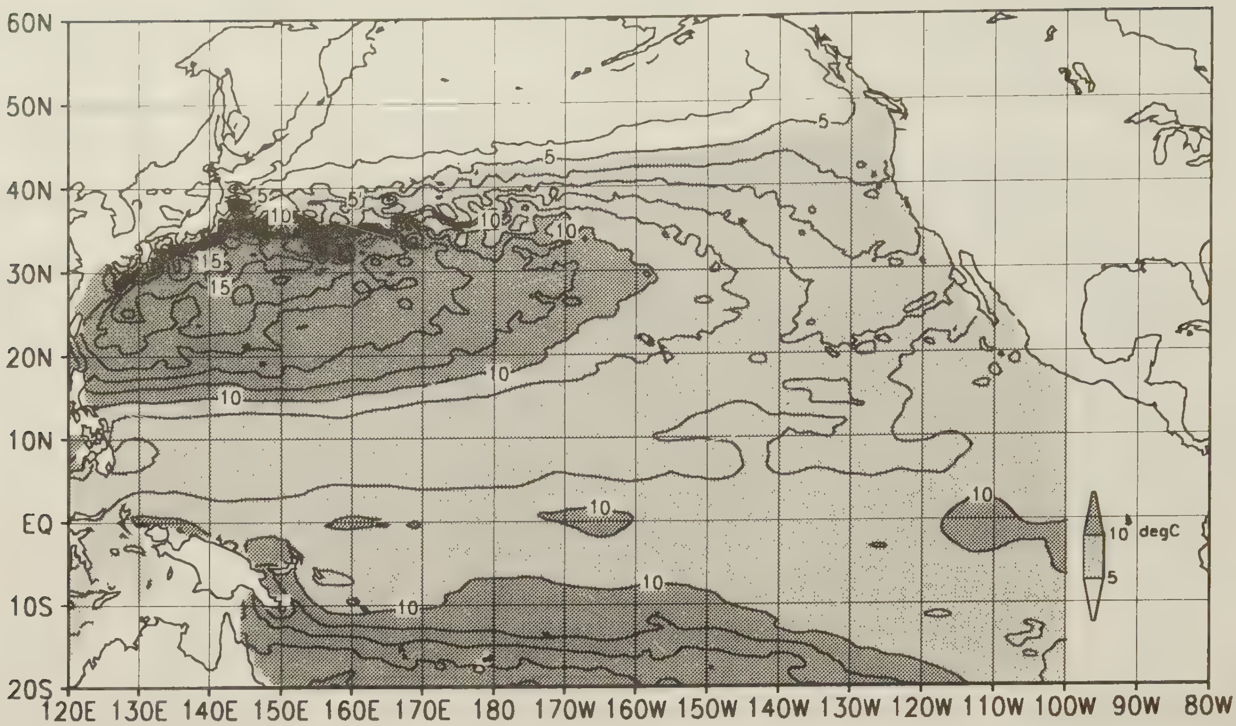

第18図　太平洋月平均表層水温図（深さ 100 m）（2002 年 2 月）
（海洋総合解析システムによる）

Fig. 18　Monthly mean subsurface (100 m) temperature in the Pacific Ocean for February 2002.
Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)



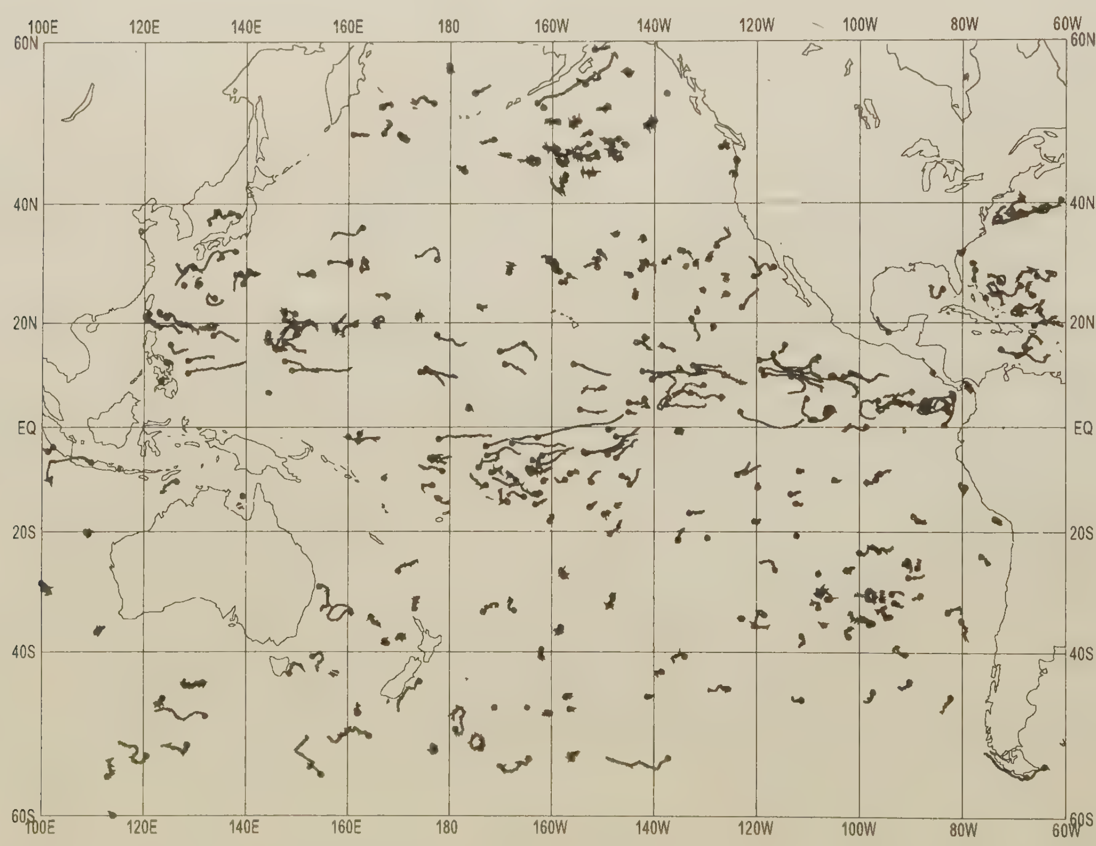

第19図　太平洋月平均表層水温図（深さ 200 m）（2002 年 2 月）
（海洋総合解析システムによる）

Fig. 19　Monthly mean subsurface (200 m) temperature in the Pacific Ocean for February 2002.
Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)



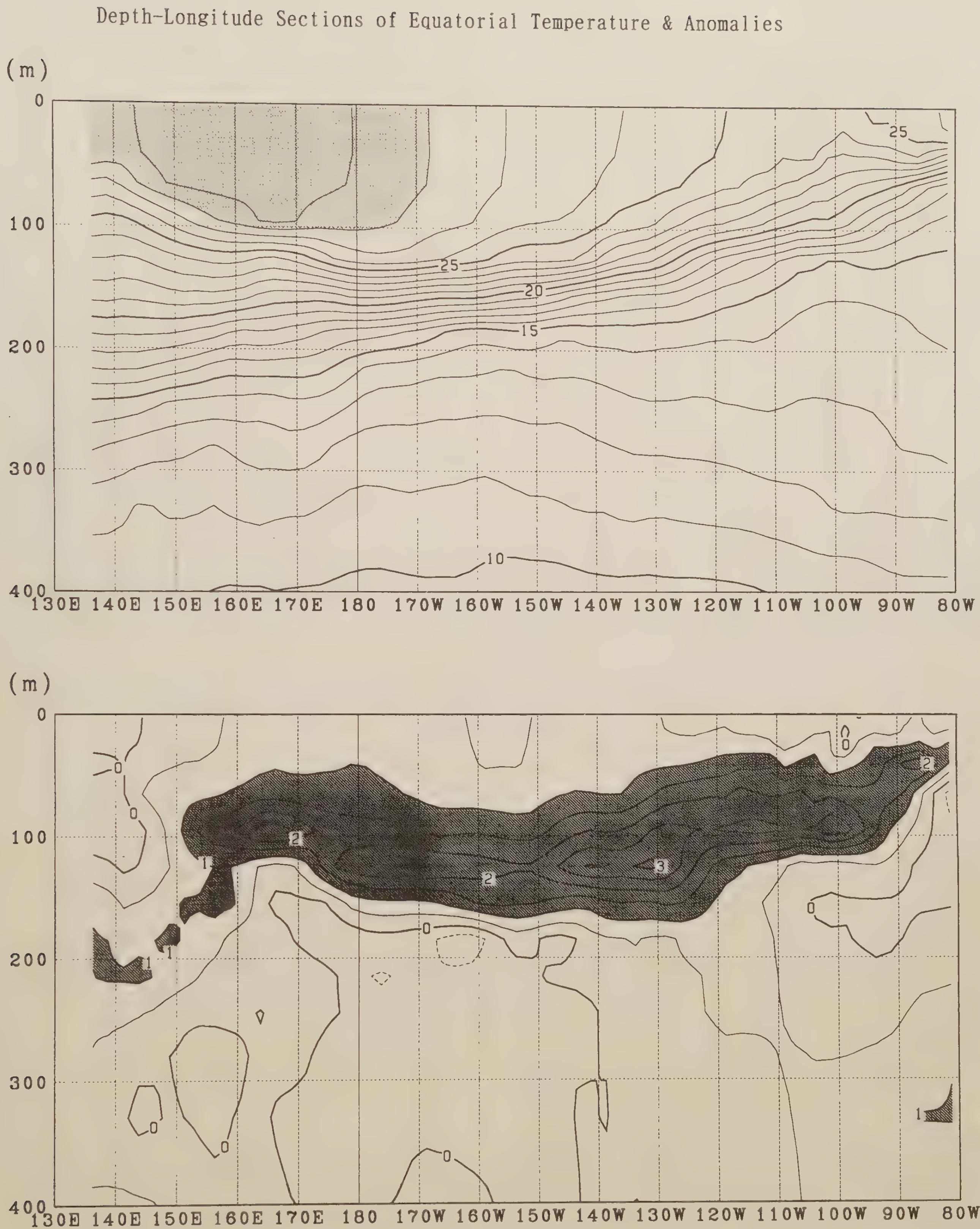

第 20 図　太平洋月平均表層水温図（深さ 400 m）（2002 年 2 月）
（海洋総合解析システムによる）

Fig. 20　Monthly mean subsurface (400 m) temperature in the Pacific Ocean for February 2002. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)




第 21 図　太平洋ブイ流跡図（2002 年 2 月）

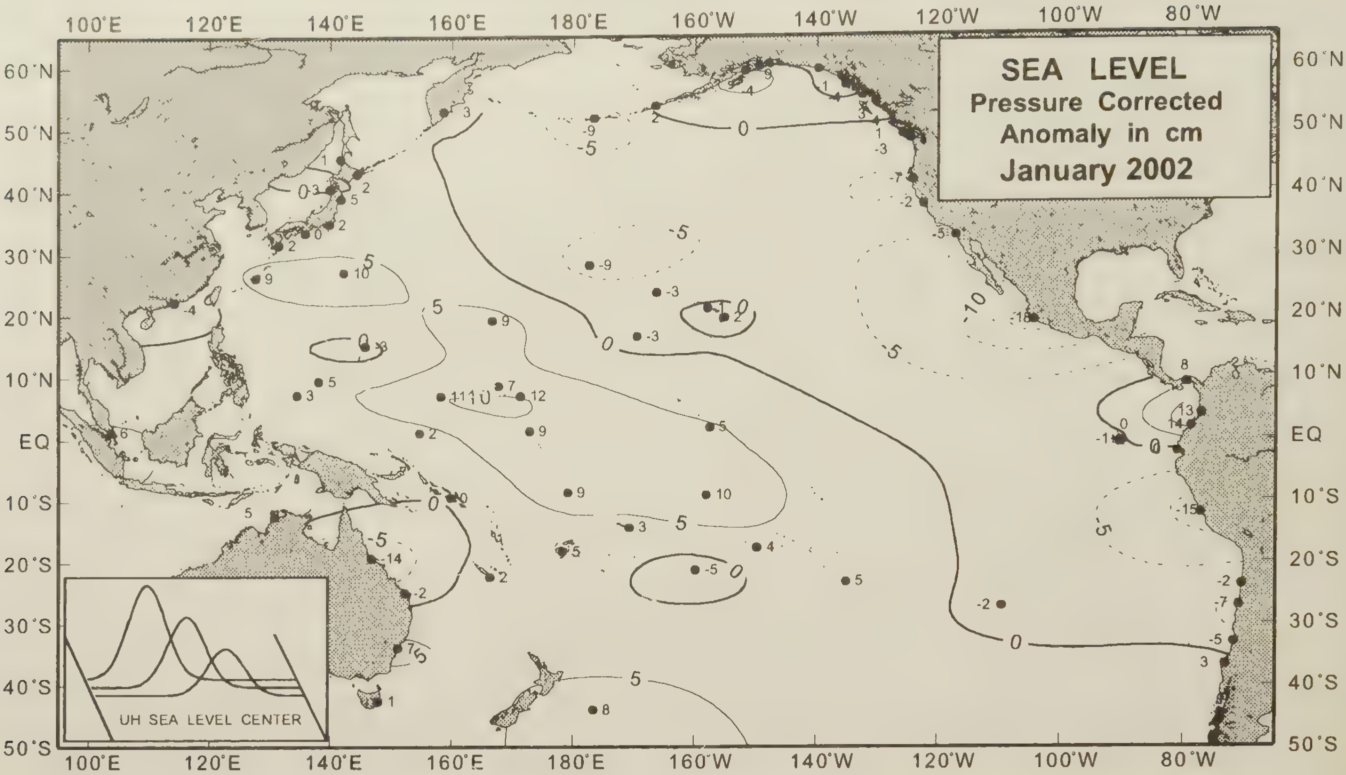
Fig. 21　Trajectories of drifting buoys in the Pacific Ocean during February 2002. Each track is for one buoy. Small circles represent the last positions for the month.




第22図　太平洋赤道に沿う表層水温（上）及び偏差（下）の深度－経度断面図（2002年 2月

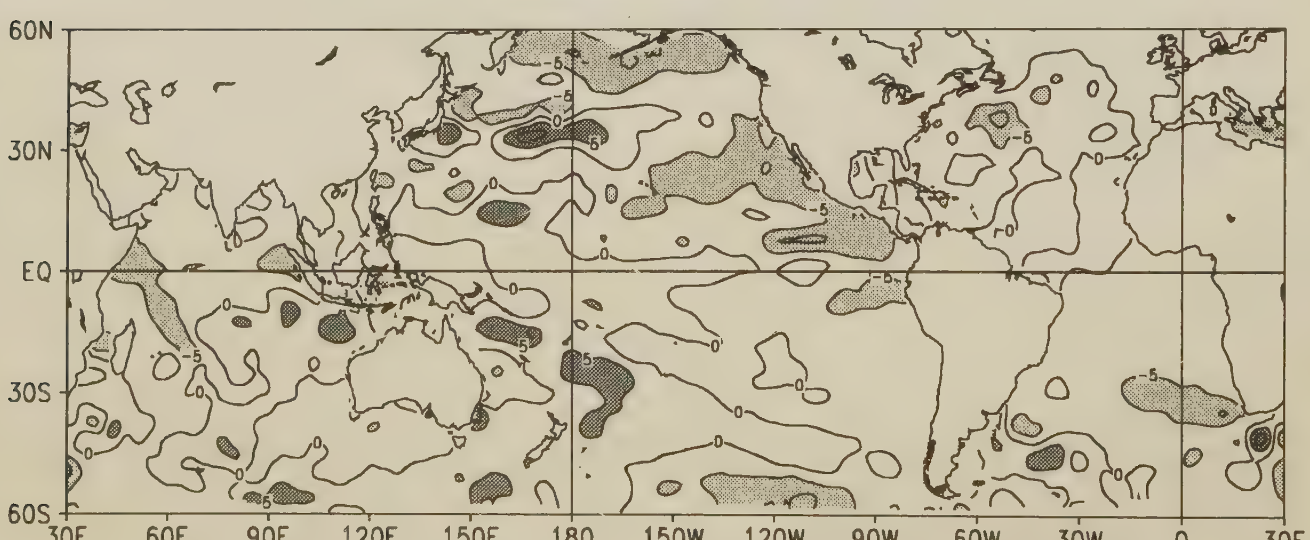
Fig. 22 Depth-longitude sections of temperature (top) and anomalies (bottom) along the equator in the Pacific Ocean for FEB 2002. Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C (top) and 0.5°C (bottom). Values greater than 28°C in the top panel are shaded. In the bottom panel, values greater than 1°C are shaded and values less than -1°C are spotted. Anomalies are computed from 1987-2000 base period means.

Sea Level Anomalies / Sea Surface Height Anomalies




第 23 図　太平洋月平均海面水位偏差図（2002 年 1 月）

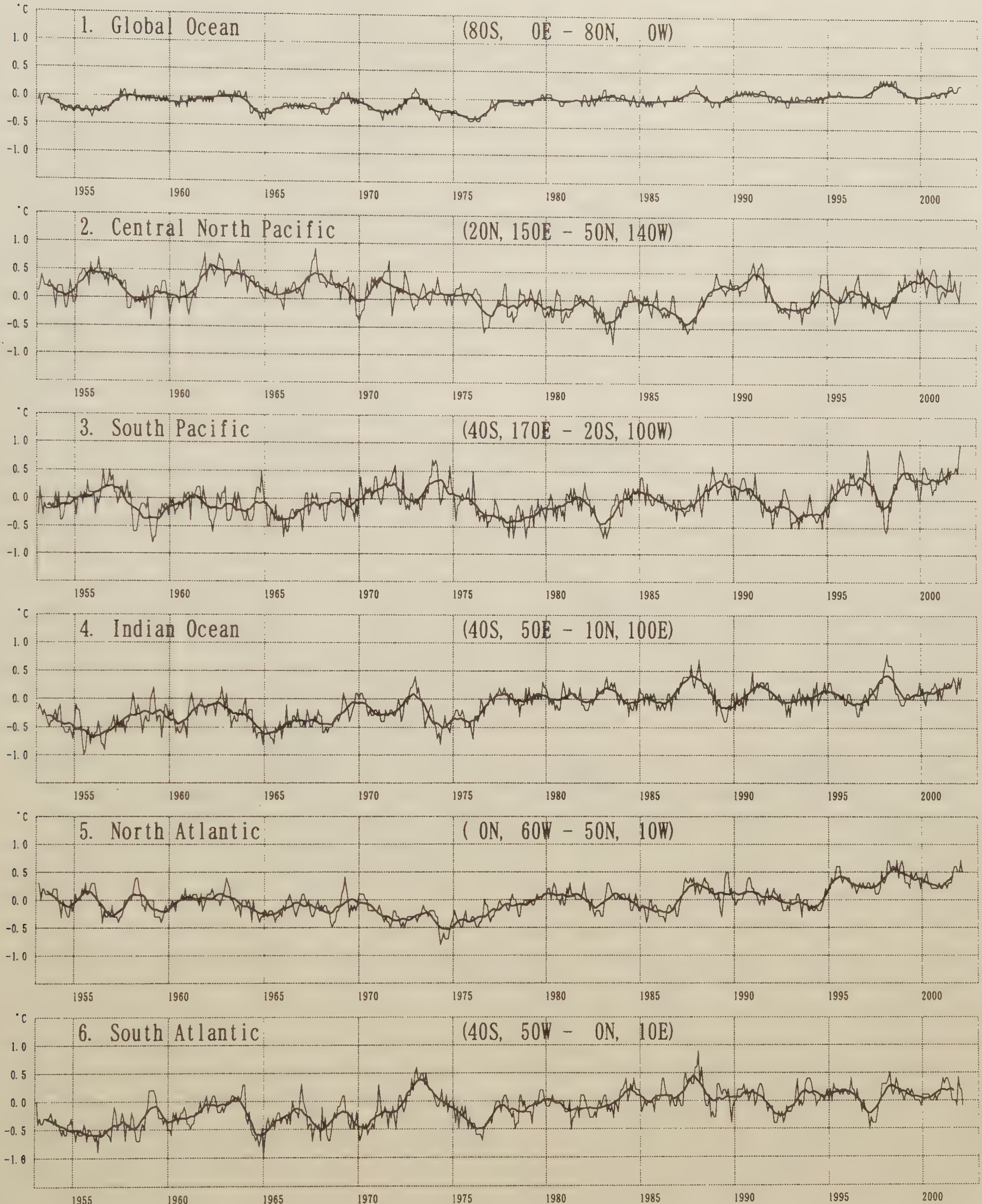
Fig. 23　Monthly sea level anomalies for January 2002 obtained from mean sea level (1975-1995) adjusted for atmospheric pressure. This figure is prepared by the SOC of ISLP-PAC, Department of Oceanography, University of Hawaii.




第 24 図　全球月平均海面高度偏差図（2002 年 1 月）

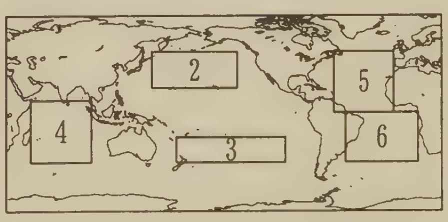
Fig. 24　Monthly sea surface height anomalies in the global ocean derived from the altimeter data of TOPEX/POSEIDON for January 2002. Contour interval is 5 cm. Positive anomalies exceeding +5 cm are shaded and negative anomalies exceeding -5 cm are spotted. Anomalies are computed from 1993-1998 base period means.

Long-term Variation of Monthly Mean SST Anomalies

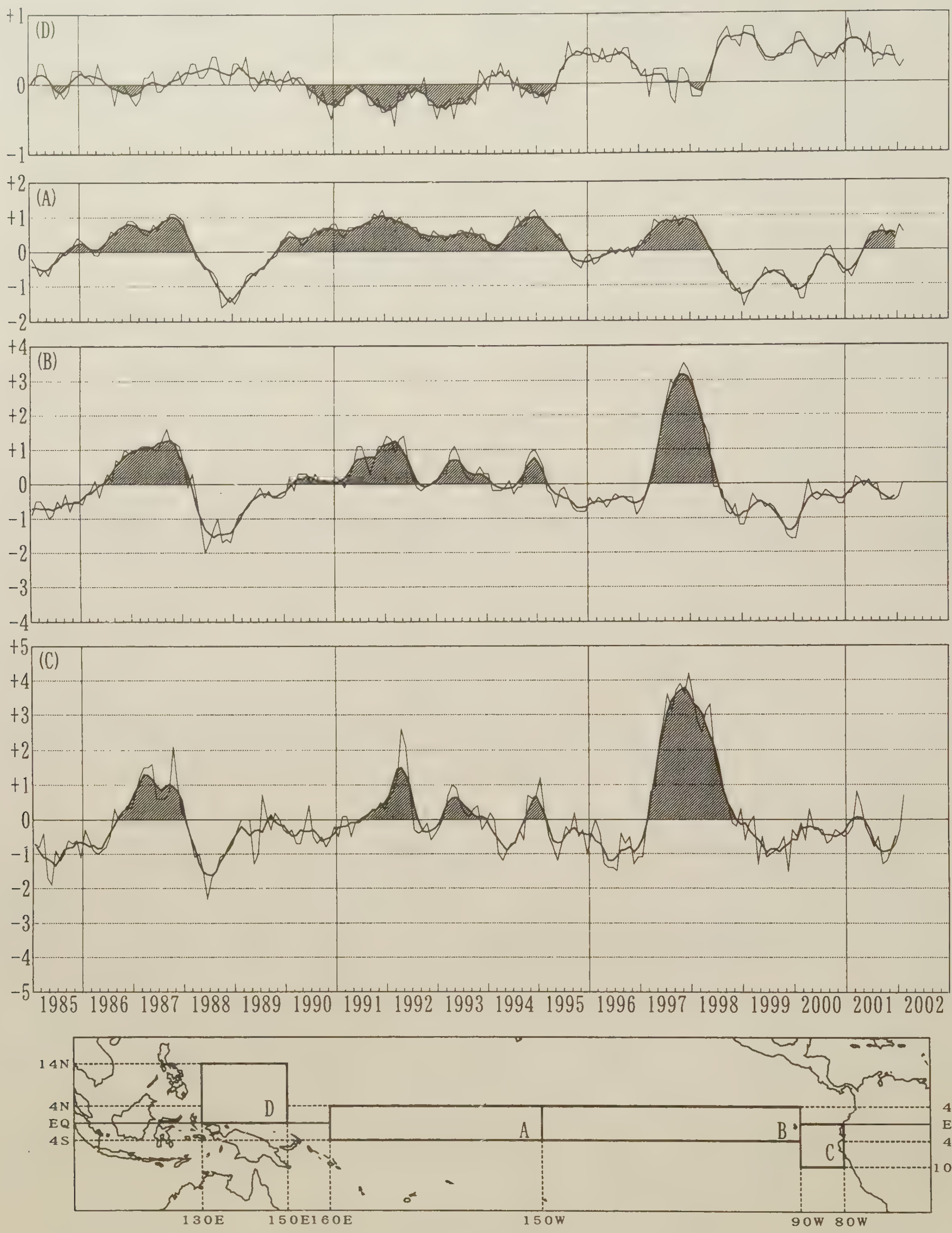



第25図 海域平均海面水温偏差の長期変動

Fig. 25 Long-term variations of monthly mean sea surface temperature anomalies (°C) for the areas shown in the right panel. Anomalies are computed from the JMA climatology (1971-2000). Thin lines show the monthly mean and thick lines their 13-month running means.



Time Series of Tropical Pacific SST Anomalies



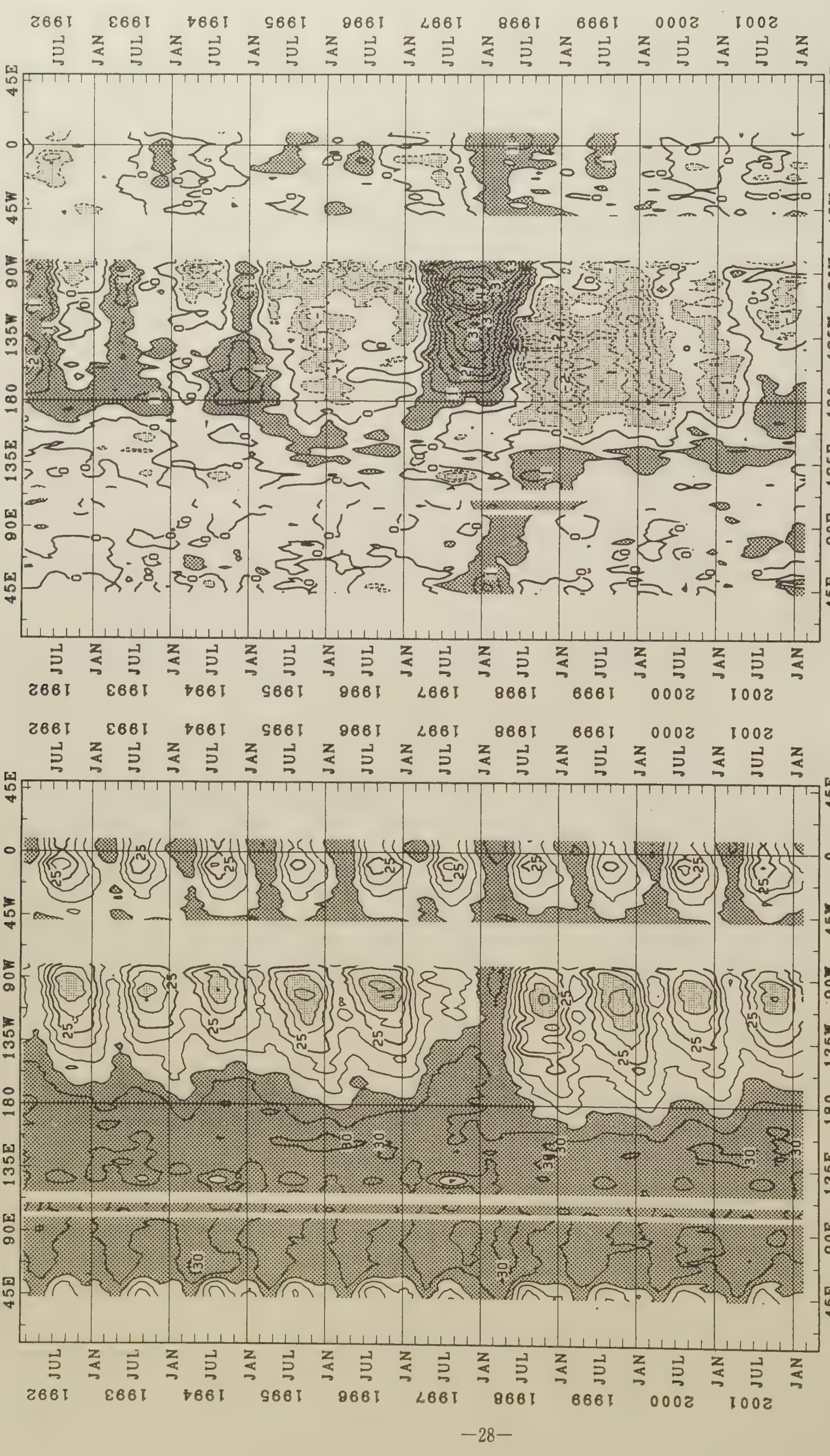

第26図　太平洋熱帯域の海面水温偏差時系列図

Fig. 26 Time series of monthly mean SST anomalies (°C) in the tropical Pacific Ocean for the areas indicated at the bottom panel. Thin lines show the monthly means and thick lines their 5-month running means. Positive anomalies (A, B, C) and negative anomalies (D) are shaded. Anomalies are computed from the JMA climatology (1971-2000).

| MONTH YEAR | SEA SURFACE TEMPERATURE AND ANOMALY (°C) REGION D 14N-EQ 130E-150E | | REGION A 4N-4S 160E-150W | | REGION B 4N-4S 150W-90W | | REGION C EQ-10S 90W-80W | | SOI | SEA LEVEL PRESSURE ANOMALY (hPa) TAHITI 17-33S 149-37W | DARWIN 12-24S 130-52E |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JAN 00 | 29.2 | 0.7 | 27.0 | -1.0 | 23.8 | -1.6 | 24.0 | -0.5 | 0.5 | 1.7 | 0.6 |
| FEB 00 | 29.0 | 0.7 | 26.6 | -1.4 | 25.3 | -1.0 | 25.9 | -0.1 | 1.2 | 3.1 | 0.2 |
| MAR 00 | 29.1 | 0.6 | 26.7 | -1.4 | 26.6 | -0.5 | 25.7 | -0.6 | 1.1 | 2.1 | -0.2 |
| APR 00 | 29.3 | 0.5 | 27.4 | -0.8 | 27.3 | 0.1 | 25.7 | 0.3 | 1.4 | 1.5 | -0.6 |
| MAY 00 | 29.7 | 0.4 | 27.9 | -0.7 | 26.5 | -0.4 | 24.0 | -0.3 | 0.3 | 1.2 | 0.8 |
| JUN 00 | 29.6 | 0.2 | 28.1 | -0.4 | 25.7 | -0.5 | 22.6 | -0.3 | -0.4 | 0.8 | 1.2 |
| JUL 00 | 29.6 | 0.3 | 28.2 | -0.3 | 25.0 | -0.4 | 21.6 | -0.3 | -0.3 | -0.1 | 0.5 |
| AUG 00 | 29.6 | 0.4 | 28.4 | 0.0 | 24.5 | -0.2 | 20.2 | -0.7 | 0.7 | 0.7 | -0.5 |
| SEP 00 | 29.7 | 0.4 | 28.5 | 0.1 | 24.4 | -0.3 | 19.9 | -0.6 | 1.0 | 2.0 | 0.2 |
| OCT 00 | 29.7 | 0.3 | 28.2 | -0.2 | 24.3 | -0.4 | 20.6 | -0.3 | 1.0 | 0.7 | -1.0 |
| NOV 00 | 29.8 | 0.5 | 27.9 | -0.5 | 24.1 | -0.6 | 21.4 | -0.4 | 1.9 | 1.6 | -1.9 |
| DEC 00 | 29.4 | 0.4 | 27.5 | -0.7 | 24.4 | -0.6 | 22.4 | -0.5 | 0.9 | -0.3 | -2.1 |
| JAN 01 | 29.4 | 0.9 | 27.4 | -0.6 | 25.1 | -0.3 | 24.1 | -0.4 | 0.8 | 3.0 | 1.1 |
| FEB 01 | 28.9 | 0.6 | 27.2 | -0.8 | 26.0 | -0.3 | 25.8 | -0.2 | 1.0 | -0.0 | -2.7 |
| MAR 01 | 29.1 | 0.6 | 27.6 | -0.5 | 27.3 | 0.2 | 27.1 | 0.8 | 0.8 | 1.8 | 0.2 |
| APR 01 | 29.4 | 0.6 | 28.0 | -0.2 | 27.3 | 0.1 | 25.8 | 0.4 | 0.2 | 0.4 | 0.2 |
| MAY 01 | 29.7 | 0.4 | 28.7 | 0.1 | 26.8 | -0.1 | 24.1 | -0.2 | -0.8 | 0.2 | 1.3 |
| JUN 01 | 30.1 | 0.7 | 28.9 | 0.4 | 26.3 | 0.1 | 22.4 | -0.5 | 0.3 | 0.3 | -0.1 |
| JUL 01 | 29.5 | 0.2 | 29.0 | 0.5 | 25.3 | -0.1 | 21.1 | -0.8 | -0.3 | 0.3 | 0.8 |
| AUG 01 | 29.5 | 0.3 | 28.9 | 0.5 | 24.7 | 0.0 | 20.4 | -0.5 | -0.6 | -0.4 | 0.5 |
| SEP 01 | 29.6 | 0.3 | 29.1 | 0.7 | 24.2 | -0.5 | 19.2 | -1.3 | 0.2 | 0.3 | 0.0 |
| OCT 01 | 29.9 | 0.5 | 28.8 | 0.4 | 24.2 | -0.5 | 19.7 | -1.2 | -0.1 | -0.5 | -0.4 |
| NOV 01 | 29.8 | 0.5 | 28.9 | 0.5 | 24.2 | -0.5 | 20.9 | -0.9 | 0.7 | 1.1 | 0.0 |
| DEC 01 | 29.3 | 0.3 | 28.5 | 0.3 | 24.5 | -0.5 | 22.2 | -0.7 | -0.7 | -0.6 | 0.8 |
| JAN 02 | 28.7 | 0.2 | 28.7 | 0.7 | 25.0 | -0.4 | 24.2 | -0.3 | 0.2 | 1.8 | 1.2 |
| FEB 02 | 28.6 | 0.3 | 28.5 | 0.5 | 26.3 | 0.0 | 26.7 | 0.7 | 0.7 | 2.0 | 0.3 |

第1表　太平洋熱帯域の大気及び海洋の監視指数

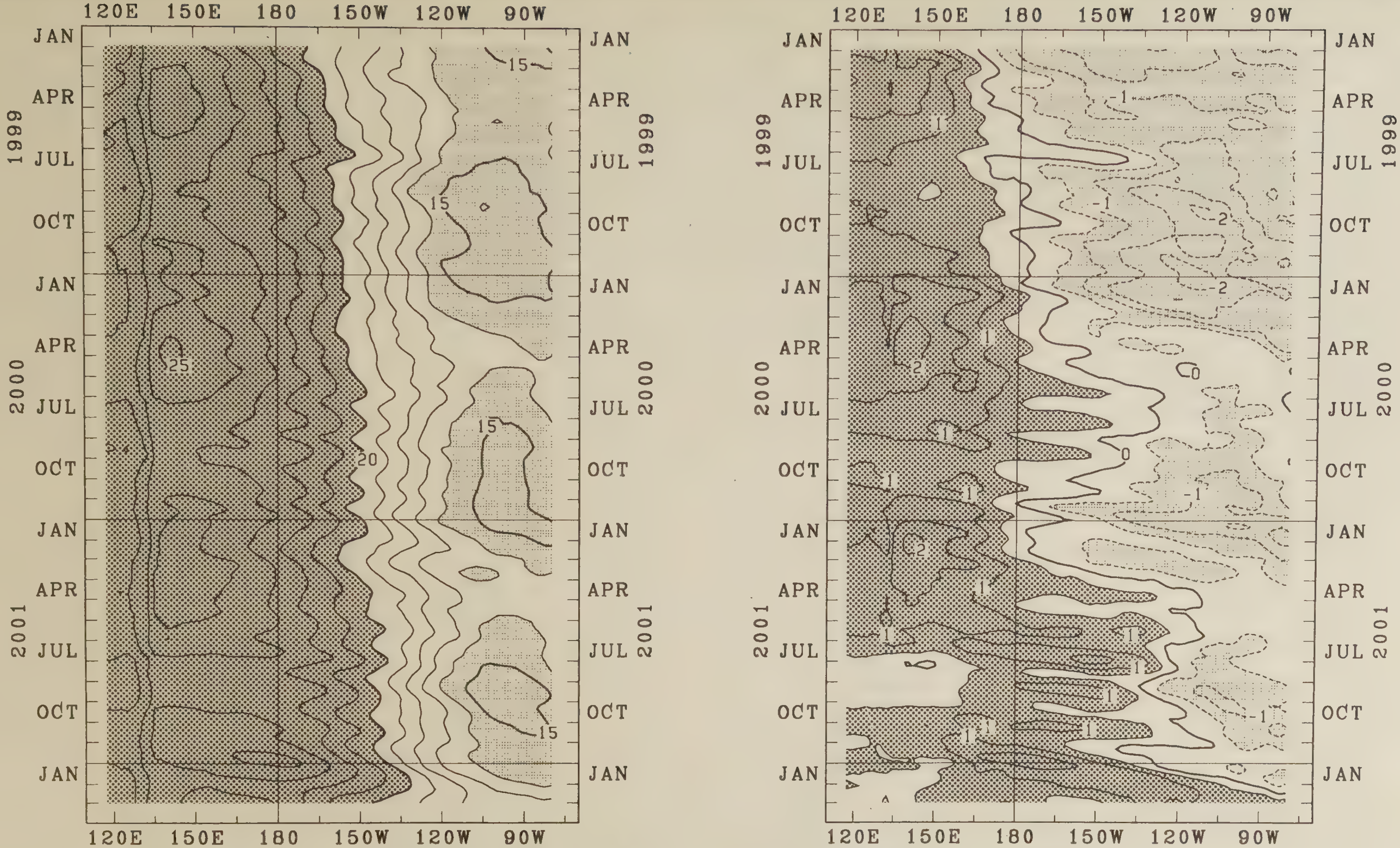
Table 1 Atmospheric and oceanic monitoring indices in the tropical Pacific Ocean



第27図　赤道に沿った海面水温（左）および偏差（右）の時間-経度断面図

Fig. 27　Time-longitude sections of SSTs (left) and anomalies (right) along the equator (2°N-2°S) in the global ocean. Contour interval is 1 °C (left) and 0.5 °C (right). Values greater than 28 °C are shaded and values less than 23 °C are spotted in the left panel. Dashed contours indicate negative anomalies in the right panel. Anomalies are computed from 1971-2000 base period means.

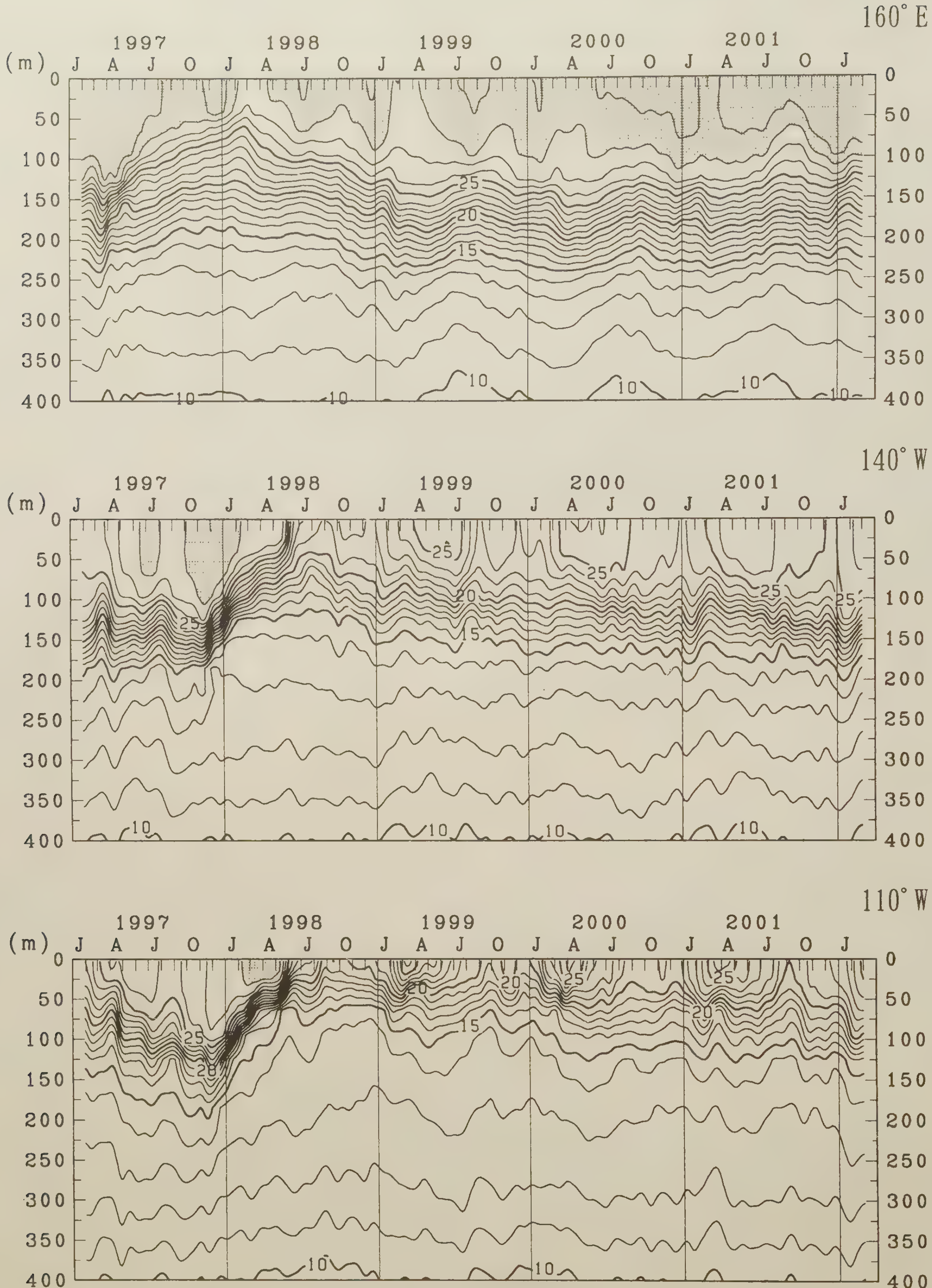
Time-Longitude Sections of Ocean Heat Content & Anomalies (Eq.)




第28図　太平洋の赤道に沿う海洋表層の貯熱量（左）及び偏差（右）の時間－経度断面図

Fig. 28 Time-longitude sections of ocean heat content in the upper 260 m along the equator (left) and anomalies (right) in the Pacific Ocean. Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C (left) and 0.5°C (right). Values greater than 20°C are shaded and values less than 16°C are spotted in the left panel. Dashed contours indicate negative anomalies in the right panel. Anomalies are computed from 1987-2000 base period means.

Time-depth Sections of Equatorial Subsurface Temperature




第29図　太平洋赤道域の表層水温の時間－深度断面図

（上：西部、中：中部、下：東部）

Fig. 29 Time-depth sections of equatorial subsurface temperature for the western Pacific (top, 160°E), the central Pacific (middle, 140°W) and the eastern Pacific (bottom, 110°W). Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C. Values greater than 28°C are shaded.

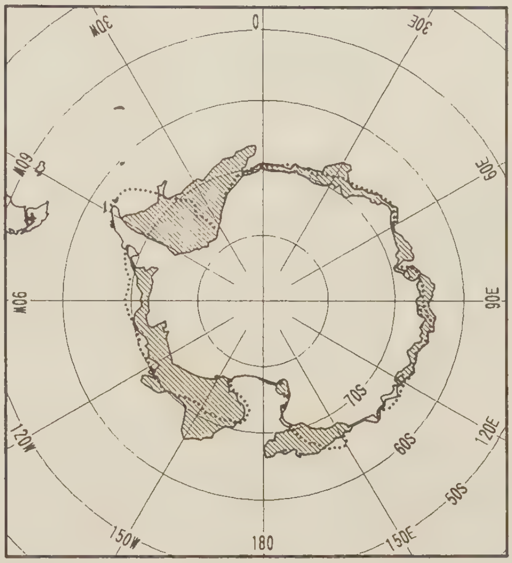



第30-1図　北極域の海氷図（2002年 2月14日）

Fig.30-1 Sea ice chart in the Arctic on 14 Feb. 2002.

The shaded area represents the sea ice extent. The dotted line denotes the mean ice edge averaged for the period from 1972 through 1990.

The data source is the National Ice Center (USA).

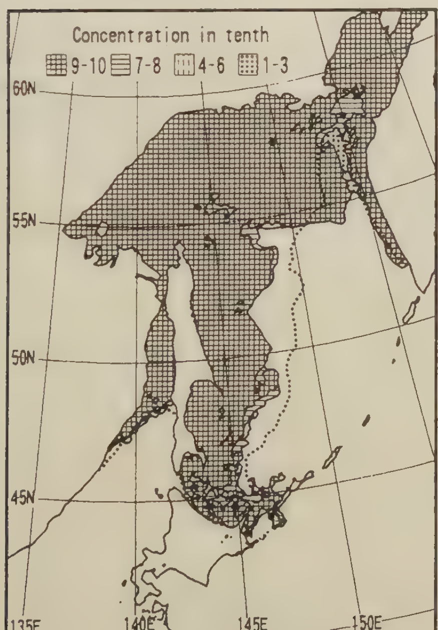



第30-2図　南極域の海氷図（2002年 2月14日）

Fig.30-2 Sea ice chart in the Antarctic on 14 Feb. 2002.

The shaded area represents the sea ice extent. The dotted line denotes the mean ice edge averaged for the period from 1973 through 1990.

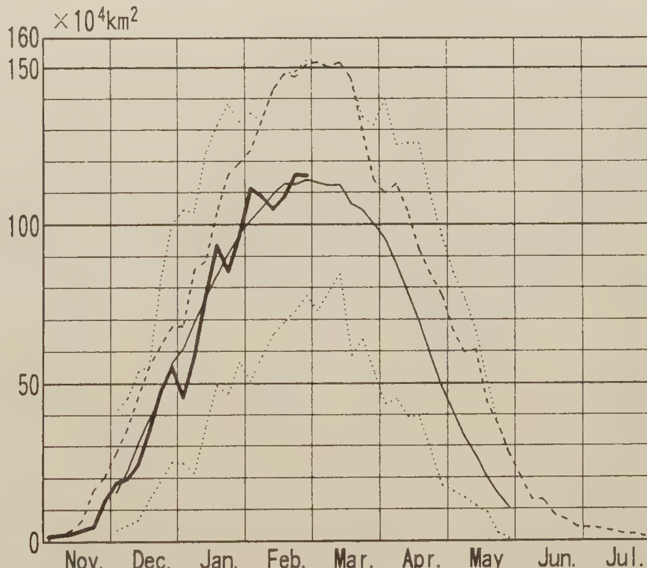
The data source is the National Ice Center (USA).




第30-3図 オホーツク海の海氷図（2002年 2月15日）

Fig.30-3 Sea ice chart in the Sea of Okhotsk on 15 Feb. 2002.

The dotted line denotes the mean ice edge averaged for the period from 1971 through 2000.




第30-4図 オホーツク海の海氷域面積

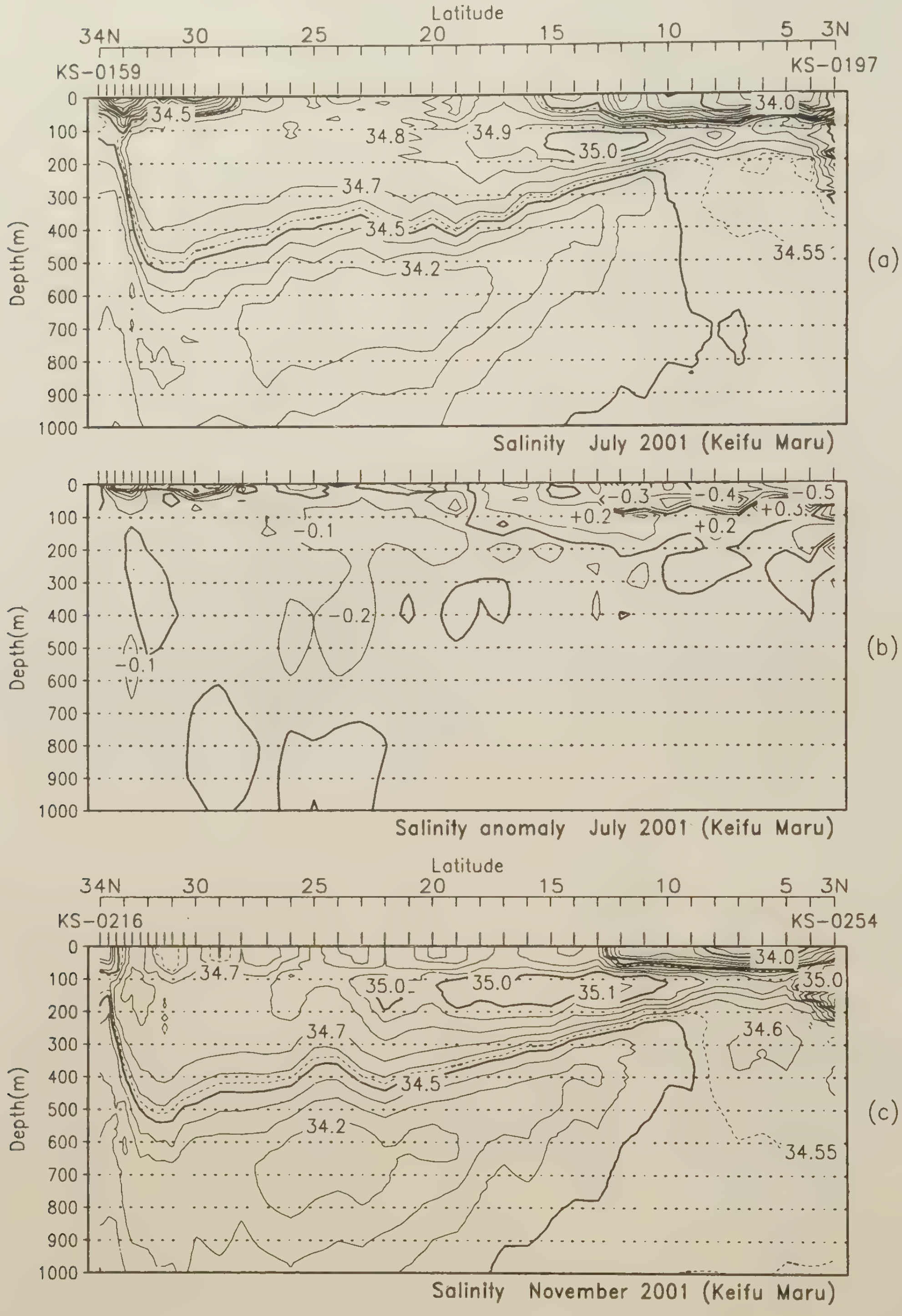
Fig.30-4 Time-series of 5-day sea ice area in the Sea of Okhotsk.

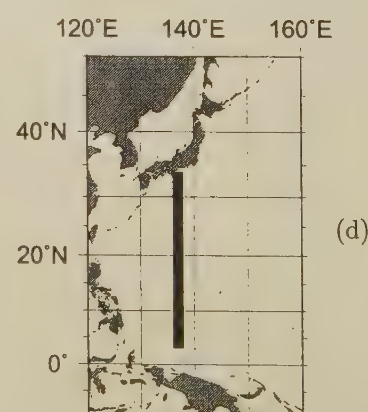
——— (thick) : current season (2001/2002)

——— : mean extent (1971–2000)

·············· : maximum or minimum extent (1971–2001)

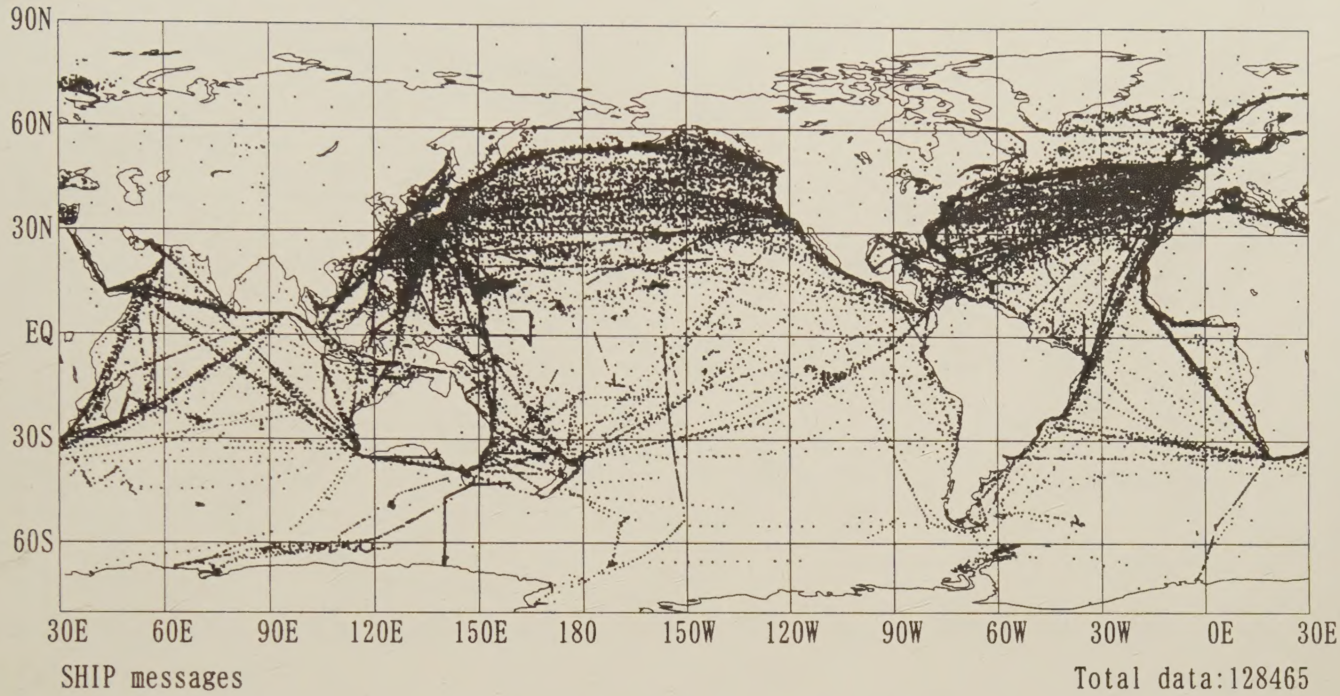
- - - - - - - : last season (2000/2001)

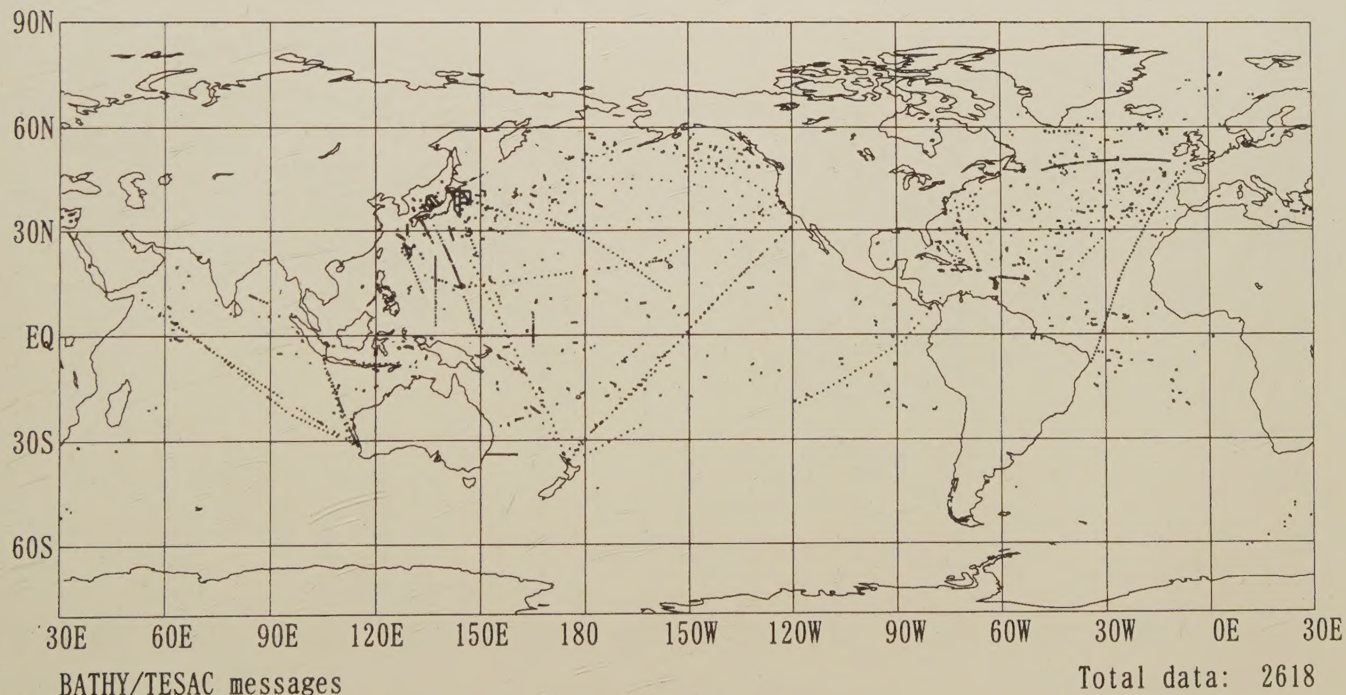



**第 31 図** 東経 137 度に沿った鉛直断面図. (a) 塩分 (2001 年 7 月), (b) 塩分平年偏差 (2001 年 7 月, 平年値の統計期間は 1972～2000 年), (c) 塩分 (2001 年 11 月), (d) 観測位置図.

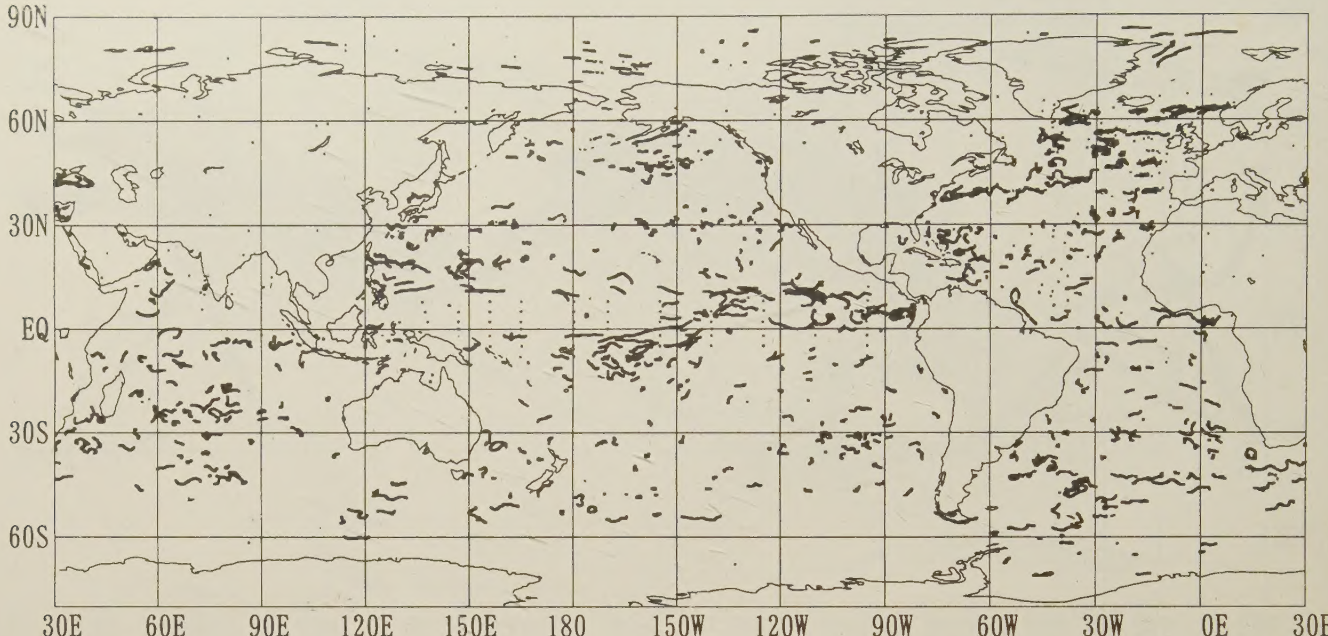
**Fig. 31** Vertical sections along 137°E by R/V Keifu Maru. (a) Salinity observed in July 2001, (b) Salinity anomalies observed in July 2001, (c) Salinity observed in November 2001, (d) Location of oceanographic observations along 137°E. Anomalies are computed in the 1972–2000 base period means.



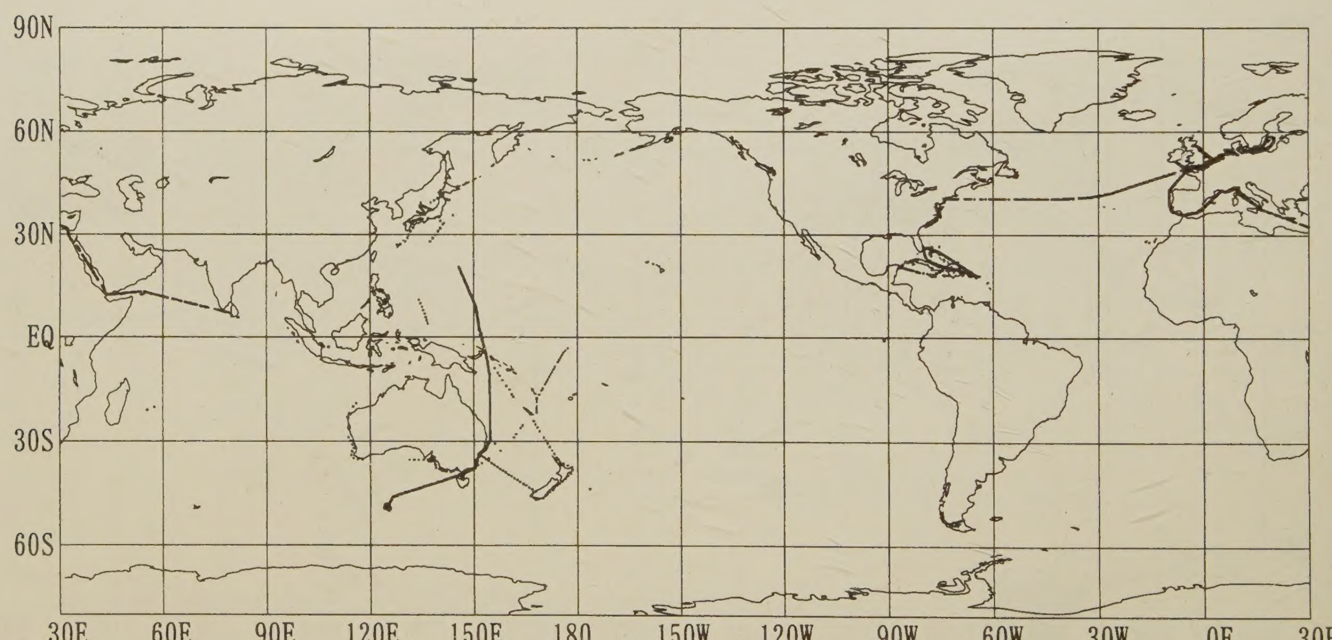




第32-1図　測点分布図(2002年 2月)

Fig. 32-1 Geographical distribution of SHIP messages (SST data, top) and BATHY/TESAC messages (subsurface temperature data, bottom) for FEB 2002.




BUOY messages Total data:414033




TRACKOB messages Total data: 2190

第32-2図　測点分布図(2002年 2月)

Fig. 32-2 Geographical distribution of BUOY messages (buoy drift and SST data, top) and TRACKOB messages (ship drift and SST data, bottom) for FEB 2002.

# 気　象　庁　海　洋　月　報

## Monthly Ocean Report

## February 2002 (No. 110)

本月報掲載の 2002 年 2 月のプロダクトには、気象庁が観測したデータ及び GTS（全球気象通信網）を通じて入手した国際気象通報式による通報のほか、下記の機関等から提供いただいたデータを使用しています。御礼申し上げます。

防衛庁、水産庁、航海訓練所、海上保安庁

水産総合研究センター

海洋科学技術センター、（社）漁業情報サービスセンター

北海道大学、東北大学、東京大学

水産試験場等（北海道、青森県、岩手県、宮城県、秋田県、山形県、福島県、茨城県、東京都、新潟県、富山県、石川県、福井県、静岡県、愛知県、三重県、京都府、兵庫県、和歌山県、鳥取県、徳島県、高知県、長崎県、宮崎県）

（順不同）

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